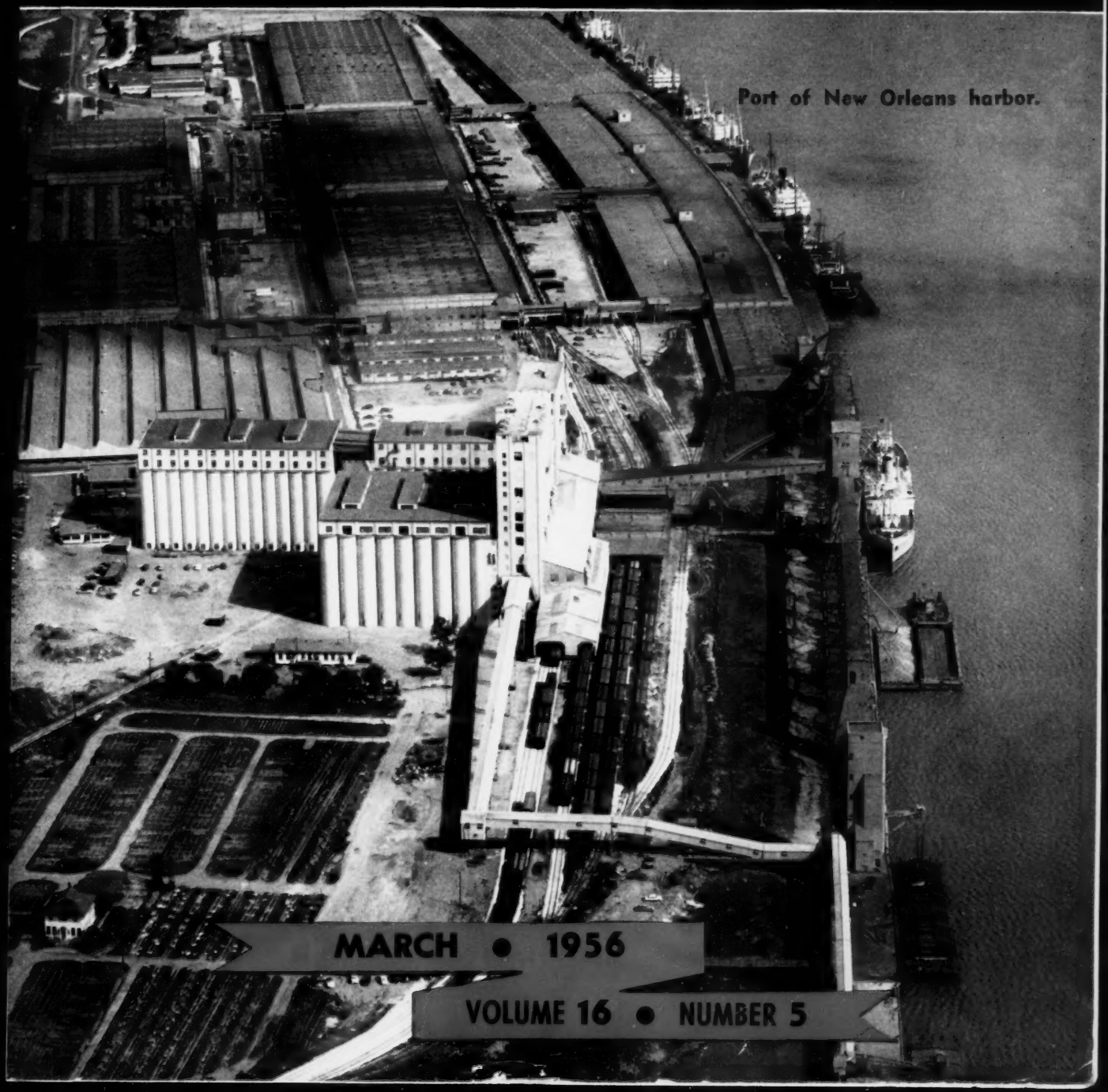
THE Soybean Digest

OFFICIAL PUBLICATION • AMERICAN SOYBEAN ASSOCIATION

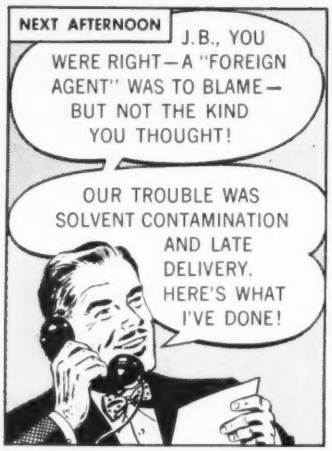


Port of New Orleans harbor.

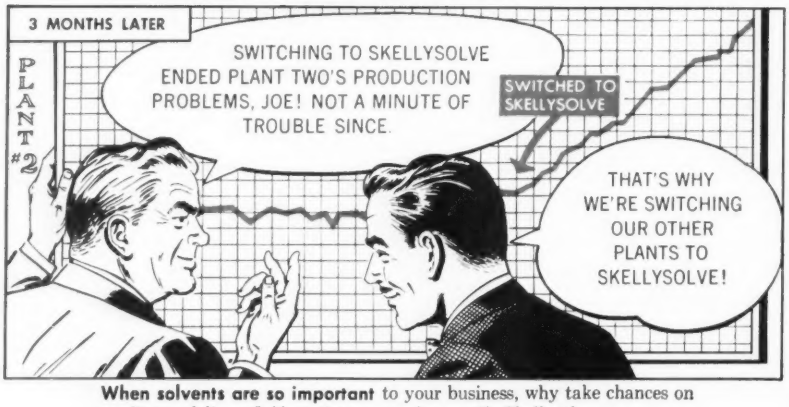
MARCH • 1956

VOLUME 16 • NUMBER 5

THE CASE OF THE
FOILED FOREIGN AGENT
JOE, I KNOW THIS SOUNDS RIDICULOUS BUT PRODUCTION LOSS IN PLANT TWO IS SO HIGH IT SEEMS LIKE SABOTAGE!
I'LL RUN OUT THERE AND LOOK INTO IT MYSELF, J.B.!


NEXT AFTERNOON
J.B., YOU WERE RIGHT—A "FOREIGN AGENT" WAS TO BLAME—BUT NOT THE KIND YOU THOUGHT!
OUR TROUBLE WAS SOLVENT CONTAMINATION AND LATE DELIVERY. HERE'S WHAT I'VE DONE!

...SWITCHED TO SKELLYSOLVE, EH?
YOU SAY SKELLYSOLVE IS CONSTANTLY CHECKED DURING PRODUCTION AND BEFORE SHIPMENT?
TECHNICAL SERVICE BACKED BY OVER 25 YEARS OF EXPERIENCE?
...NINE OUT OF TEN CARS SHIPPED DAY AFTER ORDERS RECEIVED
SOUNDS GREAT! GOOD WORK, JOE!


3 MONTHS LATER
PLANT #2
SWITCHING TO SKELLYSOLVE ENDED PLANT TWO'S PRODUCTION PROBLEMS, JOE! NOT A MINUTE OF TROUBLE SINCE.
SWITCHED TO SKELLYSOLVE
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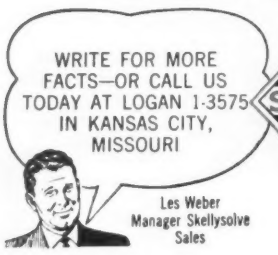

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THE Soybean Digest

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HUDSON, IOWA

Vol. 16 • March, 1956 • No. 5

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THE SOYBEAN DIGEST

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safe-guarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the industry.

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EDITOR'S DESK . . . . . By GEO. M. STRAYER

TOWARD A BETTER UNDERSTANDING

Three representatives of the sampling and grading agencies which work American soybeans as they arrive in European countries are now in the United States studying our methods of sampling and grading, and observing the loading of cargoes of soybeans at American ports.

They are accompanied by two men from the U. S. Department of Agriculture, one from Foreign Agricultural Service, and the other from the grain grading branch of Agricultural Marketing Service. As soon as they have finished their studies and observations in this country they will fly to Europe and see the same cargoes unloaded, running sampling and grading studies there.

This joint study team comes as a result of the apparent differences in results when the same cargo is sampled and graded here and abroad. For years buyers have been protesting our deliveries, alleging that foreign material content was running higher than shown on our grading certificates. Federal appeal certificates issued at our ports have not upheld their allegations. Yet they were not happy with our explanations.

Last August, at our annual convention in Cincinnati, Guy Chipperfield, president of the International Association of Seed Crushers, suggested a joint study of the basis of these protests. This joint visiting team is the result. When their study has been completed we should know where the differences in analysis lie, and whether or not there is basis for the protests.

All too often we, as sellers of American agricultural commodities, have taken the attitude that we have the only correct grading system in the world. It has been developed over a period of years, and certainly it has many good points. But we are using standards originally promulgated for cereal grains in the grading of an oilseed crop, which may account for some of our problems. It may be that we need some changes or alterations in our grades on soybeans going into the export market. It may be that the buyers will find it desirable to alter their demands when they learn the differences in cost between soybeans of various quality levels.

Probably neither system is perfect. A joint study, with representatives of the United States, Germany, Holland and England participating, should certainly lead to a better understanding of both our problems and those of the buyers. We need to do much more of this type of thing if we are to continue to supply markets outside the United States. Even if no definite conclusions were reached nor recommendations made the mere fact that men of integrity and confidence in the respective countries study and work together for a period of time cannot but lead to better understandings and thus continued market expansion.

To J. W. J. Stedman and Elmo A. Shaw of USDA, and to D. A. Brett of Caleb Brett & Sons, Ltd., London, and Alfred Elvers of Dahn & Hamann, Hamburg, together with P. G. Verheul of Unilever, Inc., Rotterdam, we entrust a comprehensive study of a complicated problem. Out of the study should come recommendations which will make continued export trading in soybeans more easy.

1956 WILL BE A YEAR OF PROBLEMS

At this writing it has become apparent that Congress is not going to pass a farm program which will be effective on 1956 crops—whatever may be developed will probably come too late. Planting plans are made or being made. Congress seems little farther along than on the opening day of the session.

We must, then, base our plans on the program now in effect. It calls for reductions in the acreage of corn, wheat, cotton and rice. On the latter three there will undoubtedly be large reductions, for they are tied into marketing quotas and strict allotments.

If my observations in the cotton and rice country are correct we are going to see a huge increase in soybean acreage in 1956. Advance seed sales confirm this. Our crop reporters further confirm it. A large portion of the acreage taken out of the two crops will go into soybeans.

Wheat acreage presents another problem. Much of the wheat territory cannot raise soybeans satisfactorily because of climate or rainfall. Undoubtedly some of the acreage coming out of wheat in the Cornbelt states will go into soybeans.

Corn presents another problem. Acreage allotments are cut so drastically there is much question on compliance. If there is no change before planting time there may be only a relatively small increase in soybean acreage in the Cornbelt. But a small increase, in terms of percentage, may be a large increase in soybean acres. There are those who maintain today that the soybean acreage in Illinois alone will increase by more than a million acres.

It all adds up to the largest soybean acreage in history. Coupled with a higher support price, to this writer it means soybeans selling at support price at harvest time over much of the area,

it means CCC soybean stocks, and it means the end of an era of production of soybeans strictly for consumption and not for storage. All this, of course, is based on normal weather and growing conditions.

Should drouth prevail over a large area we will face another problem. Support prices will not then prevail, but the salable units will be limited. Present indications are that we may be in a dry cycle—only time will tell.

If you can afford to produce soybeans and sell them to the government for storage purposes at support price levels we suggest soybean acreage in 1956. But we do suggest serious consideration of the consequences of producing 500 million bushels of soybeans this year—we are not prepared to absorb them into our domestic economy at that rate, and neither are we prepared to export them because we do not have the organizations with which to do it.

1956 will be a year of problems.

WHAT WILL WORLD MARKET DO? Recent selling prices on soybeans substantiate the contention that it is better to have a reasonable support price on our crop, with the expectation of selling above the support level. Support prices, under such conditions, do not tend to become ceiling prices nor selling prices.

The announcement on 1956 crop supports, carried elsewhere in this issue, points out that 1956-crop beans will be supported at a national average of 11¢ per bushel above 1955-crop levels. Your Association opposed the increase. It has been announced, we must live with it, and we must use it to best advantage.

We hope that the current trends in the selling price of soybeans from 1955 crop do not continue to levels which will again cause us to lose a portion of our export markets for whole soybeans, nor our domestic and export markets for meal and oil. During recent months we have bought back with extremely low prices the meal markets which we lost through high meal prices in recent years. It would be regrettable to again lose those markets, for they would not be bought back as reasonably the next time.

Likewise, let us hope that the increase in support prices on 1956 crop will not price us out of the export markets. During the past year we have been competitive, and we have expanded our markets. If my analysis of the 1956 acreage figures is correct, we are going to need every bushel of export sales which we can get. To place soybeans in CCC storage here in the United States when export markets would absorb them at a price reasonable to producers and buyers would be sheer folly. Time will tell how many soybeans the world markets will absorb at the higher price level.

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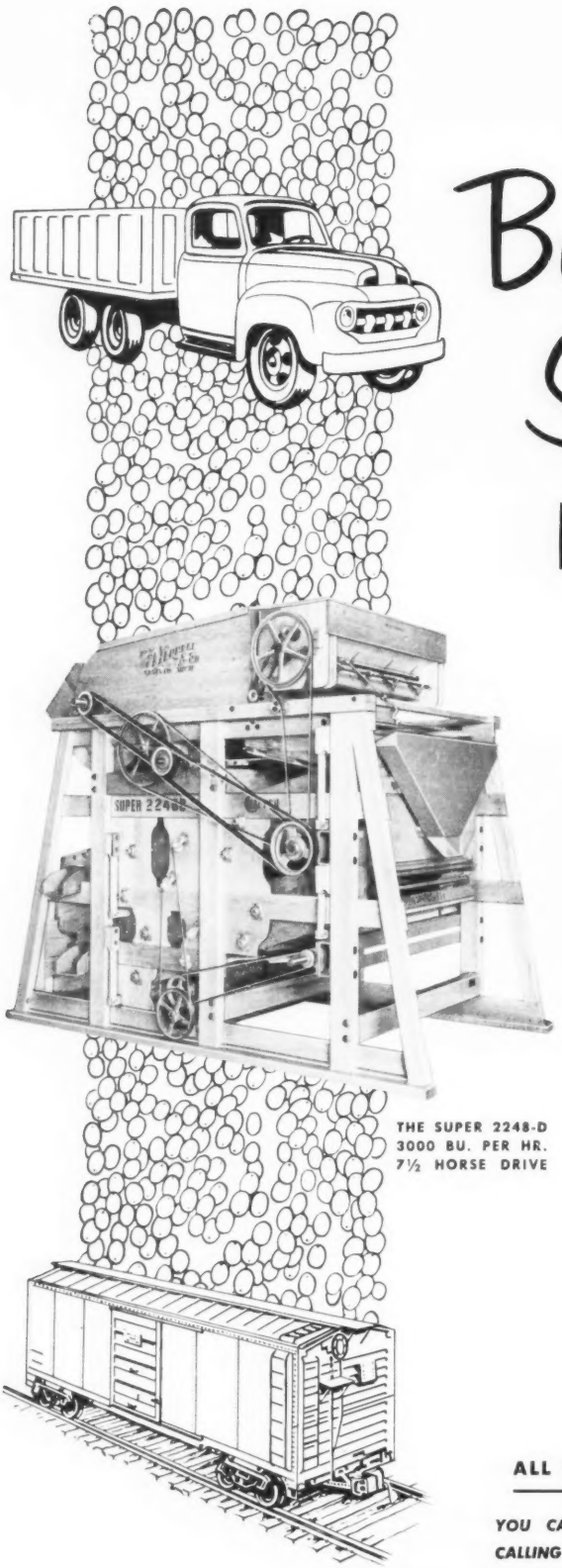

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AMERICAN SOYBEAN ASSOCIATION

Late News

Vol. 4, No. 3

Hudson, Iowa, Mar. 6, 1956

Published 32 times yearly as a service to the soybean industry.

COMMENTS ON 1956 ACREAGE

USDA officials have made a tentative estimate of 21.5 million acres of soybeans to be planted this spring (20 million for harvest). **This would be 1.5 million acres or about 8% above 1955 plantings.** (Prospective plantings report will be issued March 16.)

They see a possible 400-million-bushel soybean crop — less than 30 million bushels above 1955—and think there should be no particular problem in disposing of this bushelage. Purpose of the recently announced hike in the support rate on soybeans admittedly was to get an increase in acres.

During this period when Congress and the Administration are hammering out a farm program there is great uncertainty out in the country where the decision will be made over the actual acreage to be planted.

But many observers place the total far higher than USDA. (Trade News Service, New York, sees it as "distinctly possible that a soybean acreage in the U. S. of fully 5 million acres greater than last year will be witnessed, weather conditions permitting and if the price of beans holds anywhere near present levels. This increased acreage can be translated, conservatively, into an increase in the soybean crop of 100 million bushels."

With only a few exceptions our reporters see increased soybean acres for 1956 in their respective areas. Acreage cuts in other crops will induce farmers to look for a profitable substitute and recent market advances make beans especially attractive. Also farmers will look on the 11c advance in the price support as helping to meet production costs.

Some late spot forecasts on 1956 acreage: Arkansas up 10-25%; South Carolina and Savannah River area of Georgia up 10-15%; Illinois up 5-15% (most 10%); Indiana up 5-15%; Iowa up 5-20%; southwest central Minnesota up 10%; southeast Missouri up 6-15%; southern Indiana and western Kentucky up maybe as much as 25%; North Carolina down due to salt water left by hurricanes to up 5%; Red River Valley of North Dakota up 20%; central and northwest Ohio same to a little higher; northeast Oklahoma up 30-40%; Nancemond County, Virginia up 15-20%.

J. E. Johnson, Champaign, Ill., sees it inevitable that the 1956 soybean acreage will be very large so that even a below normal yield will produce a big total crop. "Our fears are we have seen the last 'free' soybean crop for many years to come."

Johnson sees storage for the crop next fall as of tremendous importance to the soybean industry. He doubts that many of the elevators in his area will have the storage to take care of the added demand.

STEADY MOVEMENT

There has been a continued steady market movement of soybeans in recent weeks with farmers selling on market advances, and processors apparently have had little trouble in obtaining beans in sufficient volume to meet their grind. This movement is true of most areas where soybeans still remain in storage. A fairly heavy volume has been moving in Iowa and there has been a steady movement in Illinois. O. H. Acom, Wardell, calls the

movement in southeast Missouri where all are going for export a "cleanout of stored beans."

Most northern areas report 10 to 25% of the crop is still in farmers' hands with this steadily moving out. In many places, particularly in the South, farmers are holding only what they hope to dispose of for seed.

OUTLOOK FOR EXPORTS

Washington officials will take another x-ray look at the potential soybean and fats and oils exports early this month. **They are still confident a new high of around 70 million bushels of soybean exports will be reached on the 1955 crop.**

So far they do not accept talk that exports are not apt to reach the 70-million figure. Export shipments have been falling off in recent weeks, **but there is no indication that they are declining in relation to a year ago,** Washington officials say.

Exports of fats and oils are booming, along with shipments of soybeans.

U. S. exports of soybeans during 1955 established a new high of 67.3 million bushels, 56% larger than the year before. Soybean oil exports at 68,976 short tons were 78% larger than in 1954 but only 27% of the record of 257,875 tons exported in 1951.

ASA-NSPA CONVENTIONS

The American Soybean Association and the National Soybean Processors Association will hold joint meetings again this year. Sessions will be held at the Illini Union on the University of Illinois campus, at Urbana Aug. 13-15.

Business sessions of NSPA will be Aug. 13 followed by the ASA convention Aug. 14 and 15. University of Illinois College of Agriculture and the U. S. Regional Soybean Laboratory will be joint hosts.

SOIL MOISTURE

Des Moines Register calls **Iowa's soil "dangerously dry" after 9 consecutive months of below normal precipitation.** This is true of all Iowa soybean producing areas. Subsoil is generally dry in soybean producing areas west of the Missouri River. Illinois is spotted with below normal subsoil moisture being reported at Quincy and Decatur.

Soil moisture is apparently plentiful in Indiana and Ohio and most southern areas at the present time.

	Cash Prices Feb. 27
Soybeans, No. 2 yellow, Chicago, bu.	$ 2.60¾
Soilbean oil, crude, Decatur, lb.	.13⅞
Soybean oil meal, Decatur, ton	49.50

	Cash price to farmers for No. 1 soybeans Feb. 27	Price to farmers for No. 2 soybeans Feb. 27	Retail cash price for bagged soybean oil meal Feb. 27
Ill.	$2.43@$2.50	$2.43	$65@$88
Ind.	2.40		70
Iowa	2.32@ 2.35		64@ 70
Kans.	2.37	2.37	66
Mo.	2.32@ 2.42		63.70
Ky.	2.40		90
N. C.	2.35		
Ohio	2.45		
Okla.	2.22	2.22	70
Tenn.	2.31@ 2.35		67
Va.	2.30		

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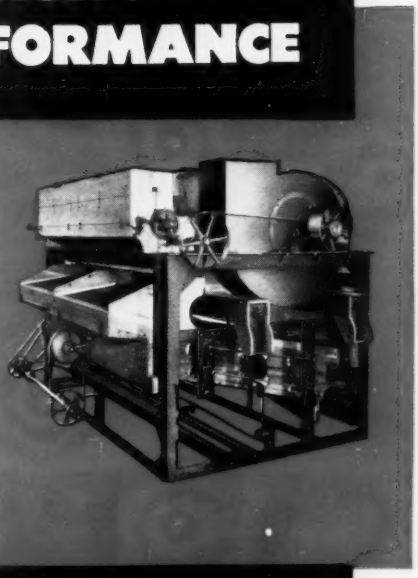

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GROWERS

Ontario Grower Sets World Record

WILLIAM BARTJA of Scudder, Pelee Island, on a 5-acre field produced the amazing yield of 67.9 bushels per acre. This is probably the highest yield officially recorded in any soybean yield contest. In 1954 Tom Maddox won the Indiana yield contest with 63.6 bushel per acre.

Winning high yield soybean contests has become a habit with Mr. Bartja. He has taken top honors five times since the inauguration of the Ontario contest 9 years ago. This past year he grew 45 acres of soybeans on his 100 acre farm which *averaged* around the 50-bushel mark.

Mr. Bartja's rotation was tobacco, seed corn and wheat seeded down with white sweet clover. The sweet clover was plowed under when it reached a height of 18-20 inches. The soybeans followed the sweet clover. Heavy fertilization occurred on each of the three crops preceding the soybeans. Corn stalks and wheat straw were all returned to the soil. Mr. Bartja condemns the "bonfire" practice of burning straw, and says that rather than take anything away from his soil, he buys bedding requirements for the few cattle that he owns.

He seeded the Harosoy variety about the 15th of May at the rate of 75 pounds per acre in 24-inch rows. Next year he may plant in the narrower 21-inch rows. He ties in his high rate of seeding with weed control—20% of the young plants can be destroyed during the weed control practices, and sufficient is left for a good stand. Narrow rows not only benefit yield, but the rows close in faster and become an important factor in smothering weeds.

Mr. Bartja stresses weed control, and the rotary hoe is the main equipment. It may be used several times before the soybeans reach a height of 6-8 inches. "Timely" weeding when the weeds are small is the secret of success with the rotary hoe. After the rotary hoe stage, comes the cultivator with the blades cutting as shallow as possible. All this followed by hand weeding to remove the *very last weed*. He says one weed left means hundreds of new ones next year.

ONTARIO CHAMP William Bartja (right) is congratulated by Ivan Roberts, Victory Soya Mills, Ltd., and presented with $100 check at Ontario Soil and Crop Improvement convention in Toronto.

INOCULATE SOY BEANS

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Superior Legume Inoculator

IT PAYS!

The Urbana Laboratories

Urbana, Illinois

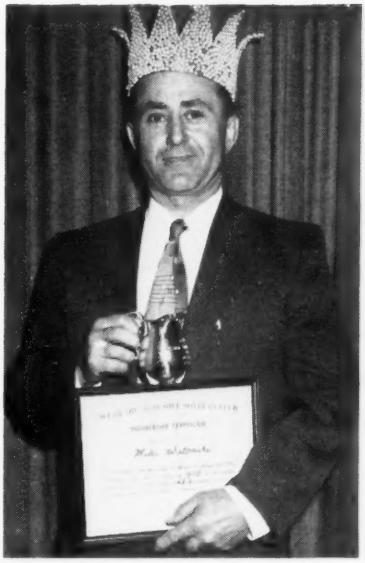
63 Bushels by Delaware Champ

MIKE WITOMSKI of Viola in Kent County has been crowned the Delaware soybean king for 1955. His record yield of 62.6 bushels per acre was recently announced at the Sixth Annual Awards Banquet of the Delaware Crop Improvement Association. Mr. Witomski was the winner in his county in 1954. In 1954 the top yield of 50.2 bushels was grown by C. A. and T. A. Pepper of Georgetown in Sussex County.

Second place honors for 1955 were awarded to Edward S. Metz of Georgetown, yield 60.9 bushels. Third place and New Castle County winner with a yield of 58.4 bushels was won by H. Wallace Cook and Sons whose mailing address is Elkton, Md.

The soybean yield program, under the supervision of Dr. Henry M. Indyk, agronomist, is sponsored by the Delaware Crop Improvement Association and conducted by the University of Delaware agronomy department in cooperation with county agricultural extension agents. This yield program was initiated in 1954 under the title of the "40-bushel Soybean Club."

From the standpoint of the growers, the program is conducted on a competitive basis to stimulate farmer



MIKE WITOMSKI

Name	County	Variety	Yield
Mike Witomski	Kent	Clark	62.6
Edward A. Metz	Sussex	Clark	60.9
H. Wallace Cook & Sons	New Castle	Clark	58.4
Mike Witomski	Kent	Wabash	58.0
Roger Williams	Kent	Clark	55.2
Victor P. Kohl	New Castle	Clark	53.2
Wilson E. Campbell	Sussex	Wabash	52.4
Lynch & Burbage	Sussex	Ogden	50.9
Clark Seed Co.	Kent	Clark	50.6
F. T. Warrington	Sussex	Clark	50.2
John L. Green	Sussex	Ogden	50.0

interest in the use of the best known present-day practices for the production of high yields. Each grower who succeeds in producing a yield of 40 bushels or more per acre on his 5 acres entered in the contest is presented with a certificate enrolling him as a member in the "40-bushel Soybean Club."

From the standpoint of research, this program is conducted as an intensive survey to determine practices which are conducive to high yields.

The yield of 62.6 bushels was the top yield of 125 entries in the 1955 contest. The results of this program are indicative of the very favorable soybean year which the Deleware farmers experienced this past growing season. Approximately 50% of the total entries succeeded in becoming enrolled as members of the "40-bushel Soybean Club" as compared to 25% during 1954. Furthermore, 11 of the 125 entries in 1955 succeeded in obtaining 50 or more bushels per acre whereas in 1954 only one of the 110 entries achieved this goal. The 11 growers who succeeded in producing 50 or more bushels per acre in 1955 were:

In producing the top yield in the state, the soybean king planted the Clark variety on June 4 in 28-inch rows at the rate of 45 pounds of certified seed per acre. The field was in pasture the previous year. Chemical analysis of the soil before fertilization indicated the pH to be 6.0, available phosphorus 98 pounds, potash 180 pounds, manganese 30 pounds, and calcium 315 pounds per acre respectively. Before planting 400 pounds 2-12-12 per acre were plowed down and 100 pounds applied in the row at planting time.

Invariably, the high yields were produced by growers who used a combination of all the best known recommended practices.

The Clark variety, which was recommended for the first time for commercial production, not only captured the state and county titles but also took seven places of the 11 entries producing 50 or more bushels per acre.

Irrigation in Nebr.

Irrigation may offer possibilities for soybean production in northwestern Nebraska, according to J. C. Swinbank, extension agronomist. He points out, however, that the Agricultural College has no experience with irrigation that far west.

Soybeans grown on dry land in test plots made comparatively poor yields under the unfavorable conditions of 1955, Mr. Swinbank reports.

1955 Soybean Yields Tests in Northwestern Nebraska

Variety	Cheyenne Co.	Chase Co.
Blackhawk	6.1 bu. a.	10.1 bu. a.
Harosoy	6.3	11.4
Hawkeye	6.5	9.8

Royal Fair Winners

TROPHY WINNERS. Cornelius and Gilles De Putter, left and center, were presented the trophy for winning the soybean championship at the Toronto Royal Winter Fair by A. R. Gillespie of Victory Soya Mills. Championship variety was Comet. It was the second soybean championship at the Fair in 3 years for the De Putters. D. A. Shanks of Wheatley, Ontario, was reserve champion.

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TIMELY, repeated and thorough cultivation is still the most effective method of control of annual weeds in soybeans.

By DAVID W. STANIFORTH and CHARLES R. WEBER[1]

Control of Annual Weeds in Soybeans

SOYBEANS have long been recognized as good competitors with weeds. Their ability to shade out small weeds quickly has made soybeans an excellent smother crop for various perennial and annual weeds. Under average to good conditions of production, cultural operations permit soybeans to become established at the expense of weeds, and surviving infestations are generally dominated by the beans over most of the growing season.

When this happens, losses in bean yield may be appreciable but not in the nature of a crop failure. The major concern of soybean producers is not the large weed infestation resulting from gross neglect, but moderate to light infestations. These very often survive a good program of cultural control and frequently interfere with harvesting operations as well as producing seeds which further infest the soil.

Modern soybean production methods utilize many cultural practices which result in good control of annual weeds. Among these are good crop rotations and fertilization, good seed bed preparation, proper choice of varieties and planting rates, and timely and effective cultivation. When maximum results are obtained with these operations, infestations which survive may be so small that they present no serious hazard to bean production. Whenever these practices are not fully effective, serious infestations may survive. The yield reducing potential of surviving infestations must be considered in relation to the further cost of their elimination, either by extra cultivation operations, by the use of herbicides or by a combination of both.

Experiments conducted recently in Iowa measured yield losses resulting when annual weeds grew in competition with soybeans. Beans and weeds were grown together in drilled rows, 40 inches apart. Infestations of green and yellow foxtail, smartweed, velvetweed and various pigweed species were maintained at levels closely approximating conditions observed in many soybean fields. Yield comparisons were made between weed-free and weed-infested experimental plots grown over a range of moisture, soil and temperature conditions encountered in the different seasons at several locations in central and north central Iowa.

Moderate weed infestations reduced soybean yields an average of 3 to 4 bushels per acre. In any particular season the extent of bean yield loss was roughly proportional to the growth of weeds; greatest yield losses were associated with heaviest weed growth. Broadleaf species such as smartweed, velvetweed, and pigweed reduced bean yields a little more than comparable infestations of yellow and green foxtail.

Poor Stands

When stands of beans fell below 10 plants per foot of row, bean losses from weeds increased markedly. Bean losses from these annual weeds were slightly less in a dry season than in a relatively wet one. Under

[1]Associate Professor of Botany and Plant Pathology and Agronomy (Farm Crops) Iowa State College; Agronomist, Field Crops Research Branch, A.R.S., U.S.D.A., and Associate Professor Agronomy (Farm Crops), respectively. Publication No. 278 of the U. S. Regional Soybean Laboratory.

dry conditions beans competed very well with weeds, and tended to crowd out the weeds early in the season. In wet seasons the growth of beans and weeds was good during the early part of the season, and when a dry period occurred in midsummer sizable bean yield reductions resulted.

Herbicide Limitations

Such experiments not only demonstrate the importance of weeds in soybean production, but emphasize the need for effective cultivation programs, and indicate some possible limitations in the potential role of herbicides for soybeans. Economical and practical control of annual weeds in soybeans demands a thorough job of cultural control. In many instances this may be sufficient from a practical point of view. Inherent in such a program is the timely and effective use of the rotary hoe to destroy very small weed seedlings in either rowed or solid drilled beans, followed by effective shovel cultivations in rowed beans.

Weed control practices prior to seeding must include a seed bed preparation program designed to destroy one or more crops of germinating weeds before the beans are planted. Sometimes the failure of cultivation to control annual weeds results from the occurrence of rainfall and wet soil conditions which interferes with the timeliness of early cultivations.

To date, attempts to use herbicides as a means of controlling weeds during periods of wet weather, have met with only limited success. Several rather promising herbicides have been tested for annual weed control in soybeans, and further progress may be expected in this connection. Successful utilization of herbicides for annual weed control in soybeans requires more than the development of a suitably selective herbicide. The herbicide should be adapted to current methods of soybean production, the cost should not be out of line with expected economic return, crop injury must be at a minimum and the herbicide should be utilized as a supplement to cultivation and not as a complete substitute. There is little point in substituting a rather expensive herbicide treatment for a relatively cheap cultivation. There is much to be said, however, for supplementing a good cultivation program with an effective and relatively cheap herbicide.

In recent years numerous herbicides have been evaluated as preemergence sprays for soybeans under a range of weather conditions common to Iowa. Among the herbicides tested have been various formulations of 2,4-D, amine salt formulations of dinitro-o-sec-butyl phenol, several CIPC materials, naphthyl phthalamic acid, and more recently a few chlorinated acetamide formulations. Each of these herbicides has shown considerable promise under certain crop and weather conditions. However, when wet weather hampered early cultivation the rates of herbicide application required for adequate weed control produced varying degrees of bean injury.

Thus, it appears that the use of herbicides for the control of annual weeds in soybeans is limited by a number of practical considerations. Under many conditions of soybean production with moderate infestations of annual weeds, the use of a perfect herbicide as a supplement to cultivation might be expected to return an average yield increase of 3 or 4 bushels. Many of the effective herbicides currently available usually cause some bean injury when used under wet conditions.

The margin of use for herbicides is further narrowed by the fact that many weeds which survive the present average job of cultivation might be further reduced by more thorough, timely cultivation early in the season, using the rotary hoe or other shallow cultivation implements. The actual cost to a producer of a single rotary hoe operation is probably very close to 75c per acre. Substitution of herbicides for one or two such operations does not appear to be economically practical with the present prices of herbicides.

The cost of the herbicide treatment may be reduced by band applications over the bean rows. Such methods of application, however, require considerable care in execution, and do not materially reduce the need for cultivation, since the area between the rows must be cultivated early if later shovel cultivations are to be fully effective. Future developments in herbicide technology may well result in a herbicide which is completely selective and well within the economic limits outlined above. For the present, however, control of annual weeds in soybeans can be most effectively and economically achieved by timely, repeated and effective cultivation operations. Such a program should include the practices shown in the box.

An Effective and Economical Program of Weed Control

1—Maintenance of soil fertility and long term control of weeds by the use of adequate crop rotations.

2—Proper sequence of timing of land preparation and seeding, which will permit the destruction of one or more crops of annual weeds prior to seeding.

3—Seeding of beans at a rate and at a time when soil temperatures are warm enough to insure rapid emergence of beans ahead of weeds.

4—Timely and repeated use of the rotary hoe or other shallow cultivation implements on rowed or solid-drilled soybeans to kill germinating weeds while they are still "in the white." Proper speed and weighting of shallow tillage implements are essential.

5—A careful followup program of shovel cultivations in row planted beans, to complete the job of weed control.

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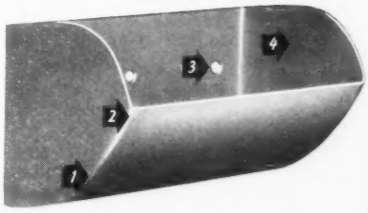

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Future of Weed Control in Beans

By F. W. SLIFE
University of Illinois,
from talk before the National Weed Conference

WEEDS have been a problem ever since we began to grow soybeans on an expanded basis. In the 1930's practically all of the soybeans were drilled solid. If the soybeans were planted in warm soils and germinated rapidly, then the tremendous amount of competition they produced held back the weed problem.

However, in many years the weeds would start with the beans and the result was fields heavily infested with weeds. This brought about a gradual shift to planting soybeans in rows so that they could be cultivated. This has proven to be a very effective method of weed control and at the present time approximately 90% of our soybeans are planted in rows.

Planting soybeans in rows has largely eliminated the weed problem between the rows but it has not answered the critical problem of weed growth in the row with soybeans.

Before weed chemicals were introduced, the most effective means of controlling weeds in soybeans was cultural practices. This has included delayed planting so that several crops of weeds can be eliminated before planting and then effective use of the cultivator and the rotary hoe as is needed.

Need for Chemical

Although after many years these practices are still very effective, there is still a tremendous need for a good weed chemical to provide insurance against rainy weather that interferes with the cultural operations. A real step has been made towards solving this problem with several pre-emergence chemicals. DNBP, CIPC, and, in some areas, NP, have proven to be the most consistent pre-emergence chemicals available for soybeans. All three materials have given varying results with weather conditions but the results over a long period of years have been very successful. Unfortunately, these chemicals have been on the expensive side to the farmer and they have not been accepted readily.

The future for chemical weed control in soybeans is promising. Although cultural practices may take care of the weed problem in many years, we still need an insurance factor in years when cultural practices are not effective. A recent survey indicates that in many areas weeds are considered by farmers as one of the biggest stumbling blocks in the production of soybeans.

There are more reasons why weeds should be controlled in soybeans than in some other crops. In addition to causing yield reductions, from competition, weeds interfere with harvesting operations. Occasionally fields are so weedy harvesting must be delayed until a frost kills the green growing weeds. This delay in harvest may cause a shattering loss and it increases the chances of fall rains interfering with the harvest and causing further delays. Heavy weed growth is extremely hard on harvesting equipment and it wears out our combines much faster. It is not uncommon to see areas in fields where farmers have not attempted to combine because of the heavy weed growth.

New grading standards have been introduced for the soybean crop which give substantial price reductions to soybeans sent to the market with weed seeds.

In addition to this, it is estimated that our soybean crop may soon reach 20 million acres annually. This presents a rather attractive market potential for good herbicides. On the debit side of the ledger, one of the major requirements for herbicides on soybeans is that they should be reasonably inexpensive. The average yield for soybeans in the United States is approximately 20 bushels per acre. At the present price of soybeans, this does not allow the farmer too much money to invest in chemical weed control.

DELAYED PLANTING and use of rotary hoe and cultivator are still most effective in weed control.

It is unfortunate that in many of our soybean-producing areas soybeans are a second crop to the region. In the Cornbelt, corn seems to take preference over the soybean crop, while in the Cotton Belt, cotton has the first priority. If we can introduce a chemical that will give good weed control rather consistently and is not too expensive, then we should be able to look forward to a good usage on our soybean crop.

Control of Giant Foxtail

By F. W. SLIFE

THE GIANT foxtail problem has not changed greatly in the past few years. Dry weather conditions over the lower part of the Cornbelt have slowed down the rate of infestation of this weed, but it still continues to be a serious problem in many areas. This weed seems to be spreading much faster into the southern half of the Cornbelt area rather than into northern areas. It may be that is is adapted more to the climatic conditions of this area than its close relatives, green and yellow foxtail.

It is not practical to try to eliminate giant foxtail completely in an infested area because of the tremendous amount of seed that is already in the soil. However, if we are going to eliminate it or reduce it, the first step is to prevent the seed from forming. It is true that the seed of this weed, as of others, will remain viable in the soil for a long time. The percentage that will remain viable after 10 years, we believe, is rather low, because much of it is destroyed by soil factors. The reason it continues to be a problem in infested areas is that the seed production has not been stopped and each year the supply is replenished. If we could prevent foxtail from forming seed for at least 3 years, we could see a noticeable drop in the plant population.

We can do a great deal by cultural practices to prevent seed from forming. Since foxtail is an early-germinating weed, usually starting as early as Apr. 15, we can destroy several crops of the weed seedlings before corn or soybeans are planted. Delayed planting is still our most effective weapon in reducing the stand of giant foxtail, and, if weather

does not interfere, cultivation of corn or soybeans may give reasonable control during the entire season. Although there is some germination of giant foxtail seeds after the last cultivation, by far the great majority of it germinates shortly after corn and soybean planting.

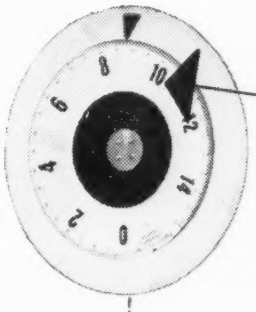
Several grass-specific chemicals are highly effective against giant foxtail in the seedling stage, but they are too toxic to be used in our corn and soybean fields. Both TCA and Dalapon fall into this category. The best approach to the use of chemicals in solving the giant foxtail problem has been the use of pre-emergence treatments. In the past, chemicals have been quite erratic and their effect has varied with the weather. In some years, 2,4-D has done an excellent job on giant foxtail, but it has been so erratic that it has not been accepted as a standard treatment.

Newer chemicals are being developed constantly and the most promising for pre-emergence treatment is Randox (CDAA), which is a diallylacetamide. It will be sold in limited quantities in 1956 to control annual grasses in soybean fields. Two years of research with it indicate that it varies less with weather conditions than other pre-emergence materials that we have worked with in the past. In extremely dry soil it breaks down very slowly and when it does rain it is available to control the grass. Although it does leach under extremely wet conditions, the upper layer of soil holds enough to give good grass control.

In addition to these good attributes, the germinating seed of corn and soybeans have a tremendous tolerance to Randox. We believe that there is little danger of reducing the stand of desirable crops when heavy rains occur after treatment. Randox may be rather expensive because of its limited production in 1956. In addition to being expensive, it is so highly specific on annual grasses that it cannot be expected to control broadleaf weeds well enough.

Randox is also quite irritating to the skin, but it apparently has a very low order of toxicity both to human beings and to animals. The use of this chemical should be restricted to the heavier soil types and to areas where grasses are the primary problem.

R. M. Hersey has become sales director for national accounts, a newly created function, for Bemis Bro. Bag Co. He has been succeeded as manager of the Minneapolis general sales division by J. H. Eastman. M. F. P. Dallison has become special account executive there.



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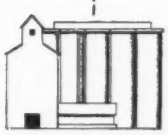

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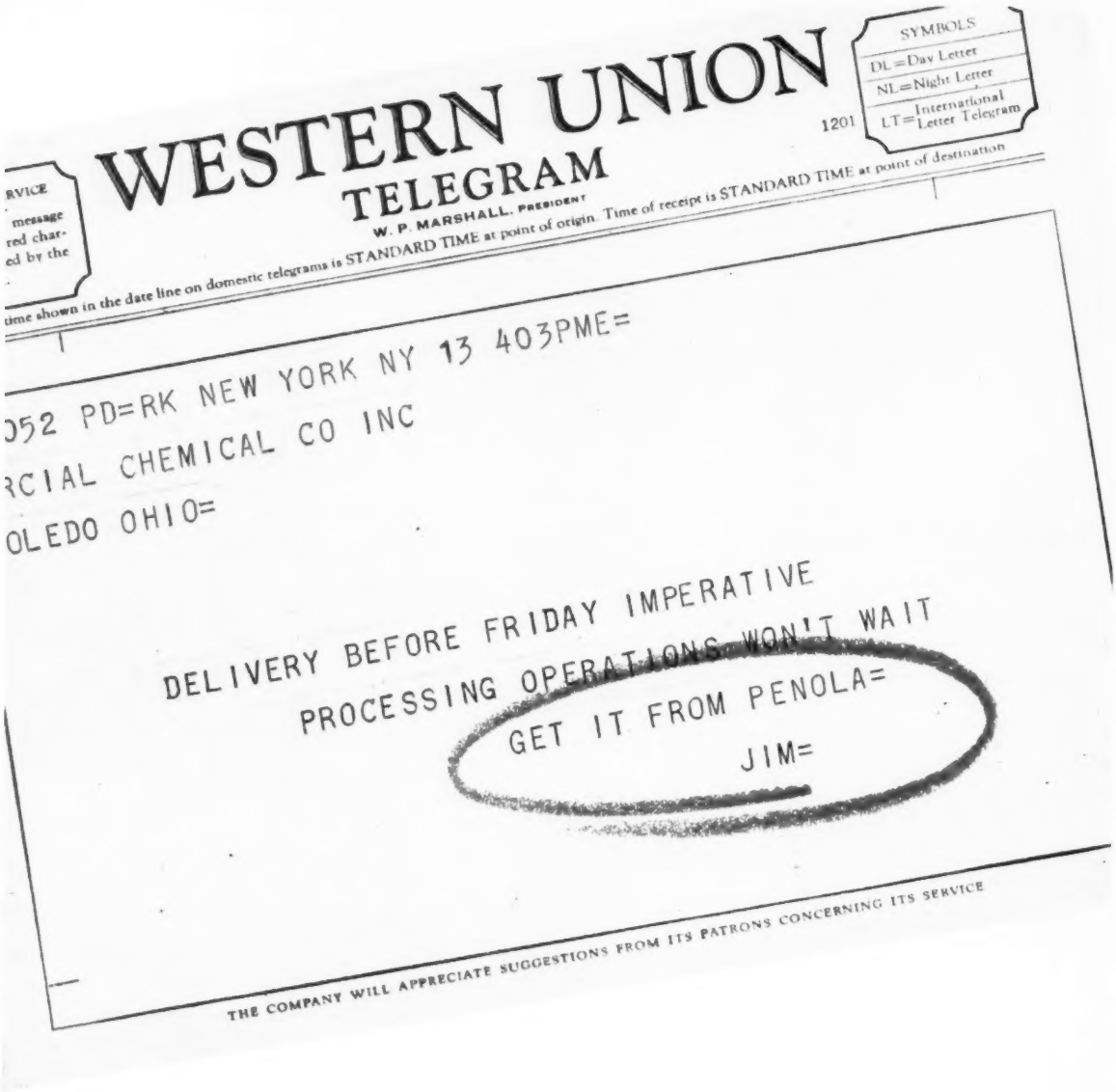

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SPREADING LIMESTONE on ground planted to soybeans. Everybody agrees that maintaining the pH level of the soil from 6 to 6.5 is best for production.

—USDA photo

Results from Fertilizer Use Should Be Predictable!

By PHILIP R. SMITH

Reprinted from Plant Food Review

THE ERRATIC response of soybeans to fertilization disturbs both scientists and farmers alike. Soybeans are relatively heavy consumers of the mineral plant food nutrients, phosphate and potash. When properly inoculated, they can probably take care of their nitrogen requirements once the plant is well established. However, nitrogen appears to be beneficial in the early stages of growth.

Why this erratic response of soybeans to phosphate and potash, especially in the Midwest? We aren't sure, but all agree that it's time to find out. **There are those who feel that we have not been placing the fertilizer properly.** There is some evidence to justify this.

Recognizing that the starting point for any new research is a survey of what has already been done, a committee of industry agriculturists, of which the writer was chairman, contacted 35 of the 48 state agricultural experiment stations. The research workers were asked to complete a questionnaire. Eighteen states answered most of the questions. The committee concluded, from these answers, that the amount of research now being conducted on both soybean breeding and the production and fertilization of soybeans is woefully inadequate.

One question put to the researchers sought information on rate of seeding, row spacing, and fertilizer application including rate, ratios, and methods of application. The information by states is tabulated on page 16.

THE SURVEY upon which this article is based was conducted by a committee composed of the following:

Proctor W. Gull, manager, agronomy section, Spencer Chemical Co.

Werner L. Nelson, Midwest manager, American Potash Institute

Robert Q. Parks, general sales manager, Grace Chemical Co.

Howard L. Peterson, president, Lincoln Service & Supply

Philip R. Smith, agronomist, the Buhner Fertilizer Co.

Nelson T. White, vice president, International Minerals & Chemical Corp.

Recommendations Vary

There is a wide variation in the recommendations of our land-grant colleges. Recommended seeding rates vary from 30 pounds to 60 pounds per acre when planted in a row and on up to 2 bushels when the beans are drilled. The trend is toward closer spacing of the rows in an effort to step up yields. A lack of suitable machinery for handling close-spaced rows probably is holding back farmer acceptance of this practice. The range of recommendations as to row spacing varies from 18 to 42 inches.

There also is a wide variation in fertilizer recommendations. Some college authorities recommend broadcasting the fertilizer before planting; others prefer banding it at planting time. For broadcast applications, recommendations vary from 200 to 600 pounds per acre. When the plant food is put on with a planter, the rates recommended go as high as 200 pounds per acre and even higher if caution is used to eliminate possible salt damage to germination.

Preference as to the plant food ratio also differs from state to state. Those recommended include 0-1-1, 0-1-3, 1-1-1, 1-2-2, 1-3-3, 1-4-4, and 1-3-6.

On one cultural practice, there seems to be almost universal agreement. **Maintaining the pH level of the soil from 6 to 6.5 is recognized as important for best production.** The use of a soil test to determine liming needs is a standard recommendation.

Approximately half of the research workers answering favor using a fertilizer carrying a small amount of nitrogen. These authorities find that the use of nitrogen raises the protein content of the bean but may also depress the oil content slightly.

Generally, researchers feel that a soil test is a valuable tool for determining the phosphate and potash requirements of soybeans although this feeling is not shared universally.

Any way you analyze it, there's but one conclusion. It simply adds up to the fact that we know very little about one of our major crops. To repeat, there is an urgent need for greatly stepped-up soybean research.

Turn the page for land grant college recommendations on fertilization and seeding practices for soybeans.

Fertilizer Roundup By States

Arkansas. R. L. Beacher, Arkansas Experiment Station: Profitable response is obtained from applications of phosphorus and potash when planting on soils which test very low in these elements and the preceding crop was not fertilized heavily. Soils that test medium to high in these two nutrients and have a favorable lime content (above pH 5.8) have not responded profitably to fertilizer applications for oil beans. Much of our Mississippi Delta soils of eastern Arkansas fall into this latter category.

Sandier soils and silt or clay loams of the rice prairie regions have given good response to applications of 200 to 400 pounds of 0-10-20, 0-20-20 or 0-20-10 depending on the phosphorus and potash soil test levels.

Nitrogen applications, at planting or as sidedressing at various times, have increased vegetative growth but not bean yields except on unusually low-organic-matter soils. Fertilizers containing a small amount of nitrogen, such as 6-9-27 or 5-20-20, are frequently recommended for beans on very poor soils or if beans are for hay.

Banding fertilizer a few inches to the side or below the seed row has been more effective than broadcasting before seeding, but good response is obtained from either method on deficient soils. In several cases sidedressings of phosphorus and potash have given profitable yield increases where beans were showing visual symptoms of nutrient deficiency during the first 30 to 50 days of growth. Sidedressings were effective only when followed by adequate rainfall or irrigation.

Mississippi. C. Dale Hoover, Mississippi State College: Between 90% and 95% of all the soybeans grown for beans in Mississippi are grown in the Delta area. In this area phosphate and potash are not usually recommended due to the level of these plant food elements in the rich alluvial soils of the Mississippi Delta.

Kentucky. S. H. Phillips, extension division, University of Kentucky: The correct use of lime and fertilizer is absolutely necessary for profitable bean yields. Soils that are too acid or improperly fertilized produce low yields. If the pH test is 5 or lower lime must be applied. Soybeans respond greatly to lime when needed as do all legumes. The lime must be worked into the soil prior to seeding time.

Louisiana. W. M. Scott, Scott Plantations, Tallulah: Our soils experts tell us that locally we still need no fertilizers for soybean production. We need nitrogen only for corn, cotton, winter grains and pastures. Nitrogen under beans gives us undesirable results.

Indiana. S. A. Barber, Purdue University Agricultural Experiment Station: On our main fertility experiment at Lafayette there was a substantial increase in yield due both to phosphate and to potash. Our soil tests are at about a medium level in both nutrients. We obtained increases in yield from applications of fertilizer **made in previous years** to build up the level of the soil. We also obtained increases in yield due to the results of fertilization on the corn and wheat crops which had preceded the soybeans. There were significant increases in height of soybeans as a result of phosphate and potash applications.

While we had no treatments which received neither phosphate nor potash we obtained increases of about 7 bushels from phosphate applications when potash was adequate and about 7 or 8 bushels from potash when phosphate was adequate. The yield on the most heavily fertilized plots was 37 bushels per acre.

This increase in yield on soybeans was in spite of the fact that we got very little increase in yields on corn last year from applications of phosphate. The response of wheat to phosphate also was very low and it was rather surprising that we got such an increase in yield on soybeans.

It was evident from the experimental results we obtained in the past few years that the climatic conditions have some effect on the response which we obtain in any one year. The yield level without an application of phosphate will be much higher one year than it will be in another year.

None of the soybeans which we had in the fertility experiments were fertilized directly. The results which we obtained were all the result of building up the level of the soil fertility 3 years previously or as a result of row applications which had been applied in previous years to corn or small grains.

Iowa. John Pesek, Iowa State College: The table showing a 12-year summary of soybean yields in a 4-year rotation as affected by rates of

RECOMMENDED FERTILIZATION AND SEEDING PRACTICES FOR SOYBEANS

	Seeding Practices		Fertilization Practices		
State	Rate Per Acre (Pounds)	Row Spacing (Inches)	Application Method	Rate Per Acre (Pounds)	Ratio
Alabama	45-90 Row 60 Broadcast	30-42	Row and Broadcast	0-400 (Soil Test)	4-10-7 0-1-1
Delaware	30-60	30-42	Banded	200-300	0-1-1
Florida					
Gainesville	60-90	30-38	Broadcast or Banded	400-500	0-1-1 1-4-4
Mobile Unit	90	24-36	Drill ½ Broadcast ½	300-400 400-600	0-1-1 1-3-3
Georgia	40-50	38-40 or Broadcast	Broadcast or Row	300-500	1-3-3 1-4-4 1-6-6
Illinois	60	40	Row	100-200	0-1-3 0-1-2 1-4-4
Indiana	45-60	28		100-150	0-1-1
Minnesota	60-90	24-28	[1]	100-150[1]	1-4-4 1-4-2 1-2-2 0-1-1
Mississippi	60-75	Same as for other crops	Drill at Planting	300-400	0-1-1
Nebraska	60 75-90	40 20-24	No standard practice	[2]	[2] 1-2-2
New Jersey	45-60 Row 75-90 Broadcast	18-36	Row Broadcast	Up to 200 400-600	
New York	60 Row 120 Broadcast	35 7	Grain Drill	200	1-2-2
Pennsylvania	30 Row 120 Broadcast	30-38	[2]	200-300	0-1-1 1-1-1
South Carolina	50-60	30-42	Row	400-600	1-3-6 1-4-4
Tennessee	30-60	30-42	Row at Planting	200-300	1-4-4
Texas	45	40-42	Row at Planting	500	1-4-4
West Virginia	30-50	30-36	Broadcast Before Planting	200-400	1-3-1
Wisconsin	60	24-42	Row and Broadcast	0-200	0-1-1

[1] Minnesota recommends that fertilizer be placed on previous crop of corn; that 100-150 pounds be applied in the row at planting time when soil test shows that P and K are low.
[2] Not reported. From Plant Food Review.

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July 14, 1955

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This is the first paragraph of a letter from Mr. R. M. Strang of the Strang Grain Co., Ft. Collins, Colo., successors to Moody-Warren. Of course, the "new roof" is easily taken care of, but this letter set us to thinking about the many Columbian Bolted Steel tanks in service even longer than these.

This 1924 photo shows the two Columbian Grain Tanks erected by Moody-Warren that year. In 1926, and again in 1928, pairs of tanks were added. This facility for easy, low-cost expansion is an important feature of Columbian Bolted Steel Grain Storage.

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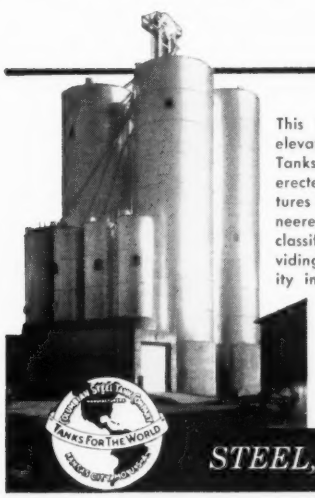

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Yield of Soybeans in a C-Sb-O-M Rotation at Ames.

Data from 1943 to 1954

Treatment	Yield
Check	26.8
8 T. Manure*	33.3
12 T. Manure	33.9
16 T. Manure	36.3
20 T. Manure	37.7

* Manure applied ahead of corn crop.

manure applied during the rotation emphasizes the fact that soybeans respond well to good management and increased fertility levels in general. It is interesting to note that these beans give a 6½-bushel response to 8 tons of manure — a quite common application by farmers who do spread their manure. Heavier applications bring about even higher yields.

This past year soybeans were grown as a residual crop on six fields in which we had applied fertilizers previously. The soybeans were harvested without further treatment and the residual effects of the fertilizers were studied.

In all fields but one, in various parts of the state, soybeans gave a response to residual fertilizers that had been applied in the years 1952 to 1954, and the response varied from 1.2 to 4.6 bushels per acre. They did not respond to 60 pounds of P_2O_5 that had been applied to corn in Fremont County in 1954. That year the weather was so dry that the corn crop was a complete failure.

Minnesota. A. C. Caldwell, University of Minnesota, reports yields of soybeans were obtained from experiments conducted in Mower County as per the table at bottom of page.

He says the data suggest the following conclusions:

1—Fall plowing for soybeans may increase yields as much as 6 to 8 bushels per acre when compared to spring plowing.

2—Soybeans grown on soils which are low in phosphate and potash will respond in yield to fertilizer application of these elements.

3—The study revealed that nitrogen fertilizer was effective in increasing yields particularly on spring-plowed land.

An examination of the soybean roots showed a decided difference in the nodulation, depending on the fertilizer treatment.

The most numerous and largest nodules were found on plants well supplied with potash which would indicate the necessity of this element in the nutrition of the nitrogen-fixing organisms.

The fertilization of soybeans is recommended on land that contains less than 15 pounds of available P_2O_5 and/or less than 150 pounds of exchangeable potash. Soybeans are easily injured by application of fertilizer too near the seed, hence fertilizer should not be drilled with the seeds.

Application of less than 125 pounds of complete fertilizer per acre can be made along the row with the corn planter, provided the planter has a fertilizer attachment that does not place the fertilizer in contact with the seed.

Illinois. Soybeans do not normally respond to direct fertilization at planting time—except for potash applied to low-potash soils, according to C. M. Linsley, University of Illinois. However, profitable increases in yield will result from a good soil-building program that includes clovers or alfalfa and plenty of organic matter in addition to the necessary lime, phosphate and potash.

Linsley cites tests on the University South Farm that have proved the value of soil treatment for increasing yields:

In a corn and soybean rotation without soil treatments, the 4-year average yield for soybeans was 21 bushels an acre. In this same rotation on soil treated with lime, rock phosphate and potash, the average was 25.3 bushels.

Soybean yields jumped to 32.5 bushels when alfalfa-clover was included in a 4-year rotation on the treated plots. Linsley calls attention to the fact that the 11-bushel increase is due to a combination of a rotation that includes legumes with a soil treatment of sufficient limestone, rock phosphate and potash.

Seedsmen Elect

Clyde Fite, Fite-Hutchinson Co., Murfreesboro, was elected president of the Tennessee Seedsmens' Association at the annual meeting in Nashville Feb. 5 and 6.

Other officers elected: Ralph Winters, Winters Seed Corn Co., Clarksville, first vice president; Wallace Dunn, Wallace Seed Co., Jackson, second vice president; and C. Hays Hollar, Hollar Seed Co., Newbern, secretary-treasurer.

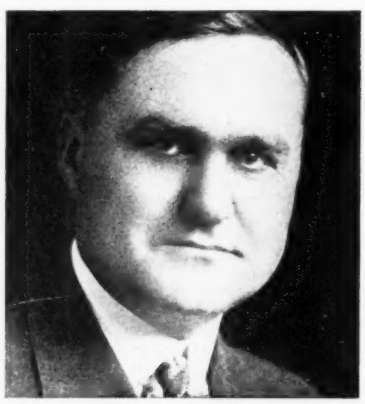
Directors are Basil E. Sharpe, chairman, Tennessee Valley Seed Co., Knoxville; E. W. Mynatt, Mynatt Brothers, Knoxville; and A. L. Reeves, A. L. Reeves Co., Rutherford.

Several new members were secured at the meeting and a drive for others will be conducted.

The Southern Seedsmens' Association and the Tennessee Association will entertain the national meeting of the Seed Enforcement Officials in Nashville this summer.

Pounds plant food per acre			Spring plowing	Fall plowing
Nirotgen	Phosphate	Potash	yield bu/a	yield bu/a
0	0	0	16.1	24.6
100	0	0	21.1	26.4
0	100	0	17.6	25.7
0	0	100	24.7	27.9
100	100	0	19.4	24.2
100	0	100	25.3	25.8
100	100	100	27.0	36.7

Well Known Ill. U. Economist Passes



L. J. Norton

DR. LAURENCE J. NORTON, internationally known agricultural economist and head of the department of agricultural economics at the University of Illinois College of Agriculture, Urbana, Ill., died Feb. 3 after a brief illness. His death was completely unexpected to most of his friends. Dr. Norton was born at Granville, N. Y., in 1896. He was a graduate of Cornell University and a member of the faculty for 2 years.

He joined the University of Illinois staff in 1923, and except for two tours of special duty with the Farm Credit Administration, had served continuously since that time.

He became head of the department in 1955.

He helped to organize the Production Credit Associations throughout the Midwest in the 1930's; and in 1946 he represented the U. S. Department of Agriculture in determining potential markets for U. S. fats and oils in Europe.

His teaching specialty was in the field of agricultural marketing, and included agricultural policy and financing.

He wrote numerous bulletins and magazine articles and two books, Marketing of Farm Products and Financing Agriculture.

Dr. Norton was well known to members of the American Soybean Association and readers of the Soybean Digest, since he was a frequent contributor to the Digest concerning the soybean crop.

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Japanese Tofu Makers Don't Like Green Beans or Foreign Material

Third of a series of reports by the editor covering his trip to the Far East.

By GEO. M. STRAYER

CONTRARY to general opinion, the people of Japan are relatively well fed. Their diet is far different from ours, and is geared to the products and basic materials available. Theirs is a vegetable diet out of necessity, for the concentration of nearly 90 million people on a small area of land less than the size of California and only about one-tenth of which is tillable makes a vegetable diet a necessity. They cannot afford the luxuries of an animal diet.

Soybean protein fills the place in the Japanese diet that milk, meat and eggs occupy in our economy. That protein is utilized in many forms, usually after fermentation or bacterial action, rather than in the raw soybean form. One of the major food commodities utilizing soybeans is tofu, or soybean curd.

Tofu is a perishable product, subject to spoilage just as our dairy products. For that reason it is made fresh daily, is marketed the same day, and is made in a vast number of small plants scattered through the villages and the cities. Ordinarily an individual plant serves an area of several blocks within the city or village. The production of tofu is started during the night hours, and as the populace arise one of the first jobs is for a member of the household to go to the tofu plant to buy the day's supply. The housewife may go to the tofu factory before breakfast to pick up her supplies, as contrasted with the door to door delivery of dairy products to the doorstep here in the states.

According to information given me by Mr. Yamemoto of the Japan Tofu Association, the product tofu originated in China, where it has been produced and used in a form very similar to the present for at least 1,300 years. In Japan the records show the production of tofu for something over 400 years, and in that time it has come to be the major source of protein for the Japanese people. Today the tofu industry of Japan is using about 300,000 metric tons of soybeans per year, of which about 200,000 are produced in Japan and the remaining 100,000 tons are imported.

A portion of the imports has been coming from the United States, some of them from Manchuria, and some from Brazil. A portion of the purchases of soybeans by this industry has recently been on the basis of Illinois origin No. 2 beans, but it is the hope of the firms doing the importing to buy U. S. No. 1 beans of Illinois or similar origins in order to secure supplies comparable to their own production and the Manchurian imports.

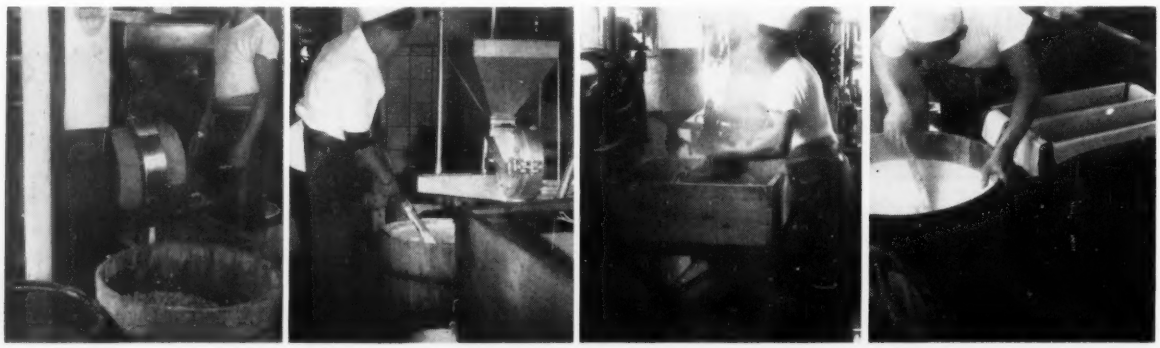
Make Milk First

Tofu is first made by producing soybean milk. The whole beans are soaked for from 6 to 24 hours, depending on temperatures. When softened the beans are ground with water in a stone mill, just as finely as possible. The resulting paste is cooked under pressure, usually in a type of autoclave where steam is applied.

The hot milk is then filtered through a cloth bag, and gypsum or some combination of magnesium and/or calcium salts added to precipitate the curd. The type of salt used, and the temperature of the milk, apparently influence the fineness and the physical properties of the curd. The curd is allowed to precipitate to a certain stage, then is filtered into wooden frames lined with cloth filters. Pressure is applied, and the liquids strained through openings in the frame. The pressure is applied over a period of time and until the water content is reduced to the point where the curd is solid and firm, when it is immersed in cold water to complete the solidification.

After immersion it is sliced off for sale to the housewife, or for deep fat frying. Various materials may be added to the tofu to vary the diet—green vegetables such as onions, chestnuts, pimientos—all are added in the final stages and before frying.

One of the most popular methods of eating tofu is to add it in small squares to soup. In nearly every Japanese restaurant a soup course is served, and tofu is a standard ingredient. It is frequently prepared to look and taste like chicken or meats. In itself tofu has little flavor,



TOFU MANUFACTURE. (Left to right.) **Beans being soaked before grinding; wet stone grinder used for grinding; squeezing the milk through a bag to separate the liquid from the solid residue; after being put through an autoclave and magnesium or calcium salts added, curdled soy milk is scooped into molds where liquid is again drained out.**

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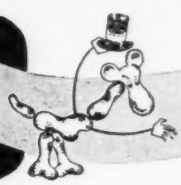

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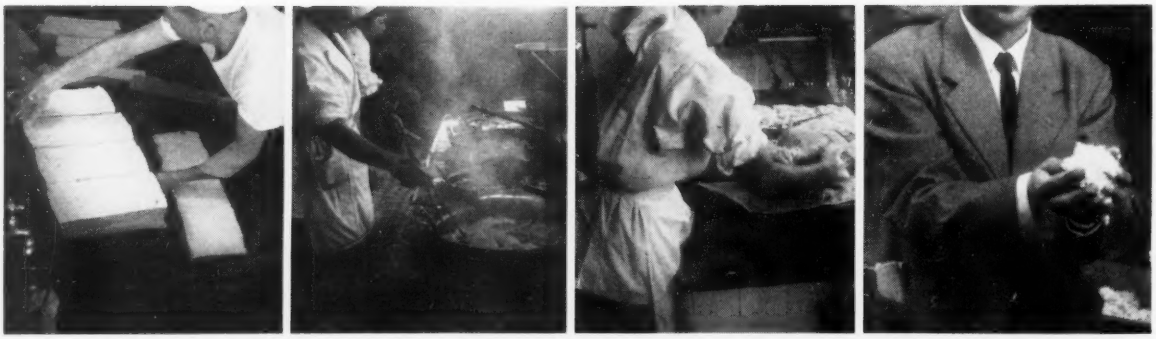


TOFU MANUFACTURE. (Continued left to right.) Solidified curds are chilled in tank of cold water; women deep fry tofu; deep fried tofu is wrapped in newspaper for sale; residue left after liquid is pressed from ground soybeans used for livestock feed.

so it is fried in various types of sauces, it is fermented, it is smoked, it is mixed with egg or with other products.

Tofu is also the starting point in making various types of vegetable cheeses through fermentation and aging processes. However, I was told this is not so popular in Japan as in other Asiatic countries.

The relative value of a given batch of tofu is dependent on color and texture, and especially color. Tofu manufacturers object strenuously to our green-seedcoated soybeans because they make a dark grayish colored product, which in many cases must be sold at a discount. They also object to foreign material content in U. S. soybeans.

50,000 Plants

There are nearly 50,000 small tofu plants scattered throughout the villages and cities of Japan. They buy their soybeans in small lots, and it is utterly impossible for them to provide adequate cleaning facilities in each of those plants. They must use the beans as they come to the plant, although I did see in my visits some efforts to screen the beans by hand, and to blow the light materials out of some lots. As can be easily imagined, morning glory seeds, foxtail seed, cockleburs, corn and sticks and stems do not make good tofu. It is easy to understand why the plant operators want clean soybeans, and why, over a period of time, they are going to insist on having them.

Managers of the tofu plants quickly point out that they consider the high-foreign-material content of No. 2 beans a disadvantage from the standpoint of quality of their product, and also from the standpoint of transportation on those materials. They would like, they continually point out, to buy clean soybeans, recognizing that they will cost more money. The tofu association buys some of the bean supplies coming from imported sources for its members. They want as light a yellow color as possible—in fact a nearly colorless or white bean is their preference. They want light-colored hilums, and greatly disapprove of the black hilum varieties because of the effect upon the color of the tofu. They want yellow interior color and yellow seedcoat, and dislike the green-seedcoated beans which they sometimes get from the U. S. as U. S. No. 2 yellow beans.

They would like to buy No. 1 soybeans under our standards, just as free from foreign material as possible. If we will supply the type of bean they prefer, and supply them relatively free of foreign material, we have a large and continuing market for American soybeans in Japan. We must assist their buyers in getting this type of product, or they will buy their soybean supplies elsewhere. Unlike the oilseed industry, where price is the all-important factor of soybean purchases, the tofu industry first of all wants quality, and is willing to pay for it.

Raise Supports on 3 Crops

THE U. S. DEPARTMENT of Agriculture on Feb. 8 announced increases in the support levels of three crops for 1956—soybeans, flaxseed and cottonseed.

Soybeans were raised from 70% to 75% of parity, and flaxseed and cottonseed from 65% to 70% of parity.

Soybeans will be supported at a national average price of $2.15, which is 75% of the Jan. 15, 1956, parity price of $2.87 per bushel.

The support levels for the three crops will continue the same price relationships as for 1955.

The Department gave "improved supply and demand conditions for oilseeds" as the reason for the announced raises in the support levels. It pointed out that Commodity Credit Corp. a year ago had approximately $58 million worth of these commodities in its stocks, but by late January this amount had been reduced to a little more than $5 million.

The American Soybean Association opposed the increase in the support level for soybeans. In a letter to Secretary of Agriculture Benson, Geo. M. Strayer, ASA executive vice president, predicted that a higher support price for soybeans might price them out of world markets and bring about a disastrous increase in soybean acreage.

Price support for 1956-crop soybeans will be carried out as in the past through farm- and warehouse-stored loans and through purchase agreements. Loans and purchase agreements will be available from harvest time through Jan. 31, 1957. Maturity date for loans will be May 31, 1957.

Soybeans to be eligible for price support under the 1956 operation must be produced in 1956. They must grade No. 4 or better and contain not more than 14% moisture to be eligible for support.

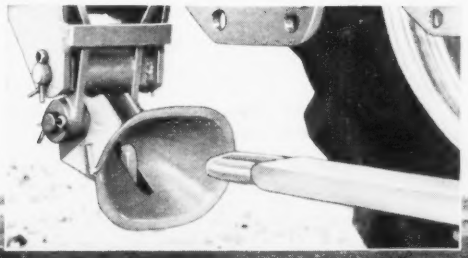
County support rates for soybeans with premiums and discounts by classes and grade for different quality will be made available later.

Effect of Allotments

One of the most striking changes found in a recent study of the effect of the 1954 corn allotment program on 204 Iowa farms was an 18% cut in corn acreage and a 69% increase in soybean acreage on farms participating in the allotment programs as compared with 1952 and 1953.

The study was made in central and northwestern Iowa by Raymond Beneke and H. B. Howell, farm economists at Iowa State College.

Soybean production on the 204 farms went up 63%, even though some of the nonparticipants shifted away from soybeans. The 63% increase came from a 53% step-up in acreage plus an increase in soybean yields per acre.



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Allis-Chalmers straight-drop planting is positive, accurate and even, at good field speeds. Cultivator action is stable and true because of wide bearings and heavy-duty truss frame. This is four-row farming with ease — for WD and WD-45 Tractor owners. Two planter models and five cultivator styles are available. Select the ones to match your crops at your Allis-Chalmers dealer's.

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Treatment Helps if Germination Low

(From Purdue University)

MANY types of crop seeds may be benefited by the use of seed treatment chemicals. Chemical seed protectants are usually good insurance and are recommended for the following reasons:

1—To destroy spores of seed-borne fungi that may attack seed plants.

2—To protect the seed after planting against soil-borne fungi.

3—To protect seed against invasion by secondary soil fungi and bacteria when conditions in the field delay germination after planting.

4—To promote vigor of seedling plants.

Extensive soybean seed treatment tests at Purdue and other midwestern Agricultural Experiment Stations have shown that seed treatment generally improves the emergence of low-germinating seed, but has little or no effect on the emergence of high germinating seed (seed above 80% germination).

It should be kept in mind that germination indicates the percentage of viable or living seed. Even with seed treatment and very favorable growing conditions, you cannot expect more seedlings to emerge than is indicated by germination.

Extreme care must be exercised in treating seed with a low moisture content, or more harm than good may be done. Rough handling will cause additional injury which will further reduce the germination. It is probably not advisable to rehandle seed with a moisture content below 8-9%. This is an individual problem that should be considered by the handler for each lot of seed.

There are a number of good seed protectants. Arasan and Spergon have been treated more extensively and have given equally good results. They can be applied either in the form of dust or slurry at the rates recommended on the container.

Although seed treatment may increase the emergence from low germinating seed, these increases in emergence are seldom accompanied by increases in yield. Studies have shown that the stand may vary widely (from 1 to 4 inches between the plants in the row) without affecting the yield appreciably. The recommended planting rate of 45 to 60 pounds per acre in 40-inch rows provides for approximately one seed every inch in the row. Increases in yield as a result of seed treatment occur only when the stands from untreated seed are very poor (numerous skips of 4 inches or more between plants). This explains to some extent why small increases in emergence generally do not produce an increase in yield.

TREATED and untreated soybean seed compard in a germination test by C. A. Mann, manager of the seed department of Blount-Midyette Co., Washington, N. C. Treated seed may show 10-15% greater germination. The firm treats all the seed it buys for resale.

Seed treatments have been shown to have no serious effects on nodulation in soils which have grown nodulated soybeans previously. When soybeans are grown on a field for the first time, inoculation of the seed with root nodule bacteria is an indispensible practice. Tests indicate that under such conditions, seed treatment will reduce nodulation.

Mercury compounds have been observed to be more harmful to the bacterial inoculant than either Arasan or Spergon. Seed treatment is not recommended where soybeans are to be planted for the first time or where there is any doubt about an adequate supply of nodulating bacteria present in the soil, as judged by the performance of past soybean crops.

Should a grower decide to both treat and inoculate the soybean seed before planting, the procedure should be in that order. Treating can be done at any time before planting, even in the preceding fall at harvest time. Inoculating should be done just prior to planting, whether the seed is treated or nontreated.

New Chick Starter

A new baby chick starter feed is being introduced by the A. E. Staley Manufacturing Co., Decatur, Ill.

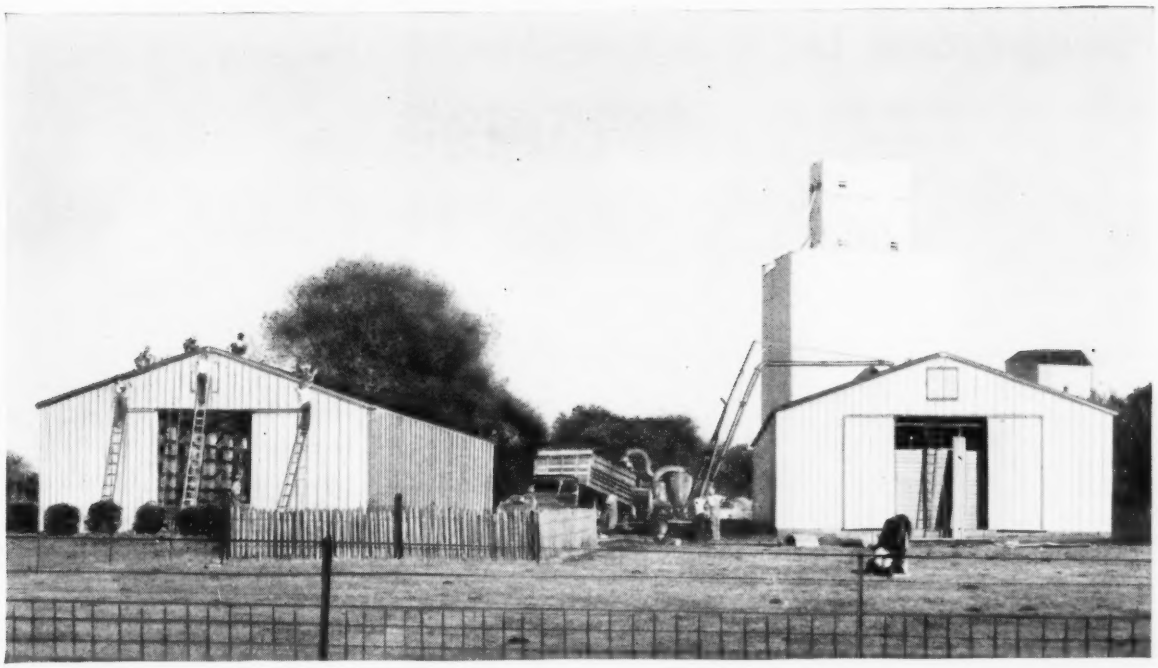
Feeding tests made by the company show that the new high-calorie ration, called "Sta-Fat" chick starter, produces 16% more gain on 14% less feed than conventional starters. Dr. W. N. McMillen, Staley's director of nutritional research, also pointed out that chicks are nutritionally ready for grower feed and grain 2 weeks earlier than before.

Chicks fed on conventional starter weighed .52 of a pound, consuming 1.75 pounds of feed for each pound of gain in a 19-day demonstration. Contrasted to this, chicks fed 50% corn and 50% oats weighed only .14 of a pound and consumed 5.5 pounds of feed for each pound of gain in the same 19 days.

Even when grain was added in equal parts to a conventional starter, at 12 days of age performance fell off and chicks weighed .46 of a pound, consuming 1.89 pounds of feed per pound of gain.

Oil and Beans in Same Field

OIL WELL in a soybean field is common in southern Illinois, southern Indiana and western Kentucky. There were three oil wells in this particular soybean field south of Fairfield, Ill., on the Skillet Fork bottoms. The field was producing a big crop of both soybeans and cockleburs, as well as oil.



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Cooperate in Market Study

THE U. S. Department of Agriculture has announced that it is cooperating in a study designed to bring about a better understanding of present methods of grading, sampling, and loading soybeans for export.

The Foreign Agricultural Service and the Agricultural Marketing Service have approved a proposal by the International Association of Seed Crushers to join with the association in studying soybean grading, sampling, and loading at U. S. ports, and later conducting a similar study when the same soybeans reach European ports.

A comparison of the condition of soybeans unloaded in Europe with the condition of the same beans at time of shipment from the United States is expected to be useful in determining possible justification of assertions of some European buyers that the quality of U. S. soybean exports do not always meet the demand of European markets.

The Department has named J. W. J. Stedman, Foreign Agricultural Service marketing specialist, and Elmo A. Shaw, of the Agricultural Marketing Service, a member of the USDA Board of Grain Supervisors, to serve with two representatives of the International Association of Seed Crushers in making the study. The association's representatives are D. A. Brett, of Caleb Brett & Sons, Ltd., London, England, and Alfred Elvers, of Dahn & Hamann, G.m.b.H., of Hamburg, Germany. P. G. Verheul, of Unilever, Inc., Rotterdam, the Netherlands, will participate as observer on behalf of the Association of Dutch Seed Crushers.

Soybeans are graded by or under the supervision of the Department of Agriculture in the United States, and by private agencies in Europe.

The inspection team left Feb. 21 for Memphis, Tenn., where they conferred with representatives of the Midsouth Soybean Shippers' Association, later meeting with representatives of soybean export and storage offices in New Orleans, La., Feb. 23 and 24.

Examinations will be made of soybeans loaded in ships at New Orleans, La.; Philadelphia, Pa.; Baltimore, Md.; Norfolk, Va., and Mobile, Ala. The inspection team will leave for Europe about Mar. 15 to complete its study there.

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Grain Trade Threat

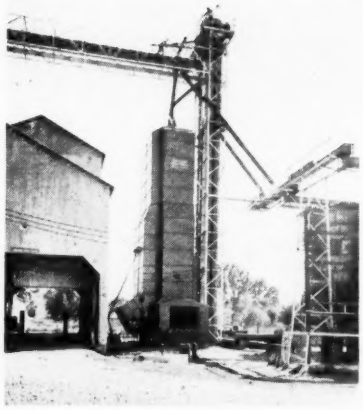
GOVERNMENT merchandising activities carried on through the vast Commodity Credit Corp. bureaucracy threaten the "very existence" of the nation's private grain marketing industry, Julius Mayer, Chicago Board of Trade president, told members of the Exchange at their recent annual membership meeting.

According to Mayer, the greatest problem facing all members of the grain industry is government participation in marketing affairs. "Everyone connected with our industry—from the farmer who grows grain to the processor who places it in consumer hands—is slowly but surely becoming an agent of the government," Mayer charged.

Experience both here and abroad shows that governmental domination of marketing and regulation of production of farm crops leads to destruction of farm markets and in no way solves the problems of stabilized prices, surplus disposal or assured farm income, Mayer declared.

In expressing the hope that industry would unite to secure administrative changes that would force Commodity Credit Corp. to halt marketing activities competing with commercial interests, Mayer warned that the problem is a "serious" one.

Appointment of W. J. F. Francis as vice president in charge of sales for American Potash & Chemical Corp., Los Angeles, has been announced. He has been general sales manager, Western, of the company since December 1952.



Largest Drier

OSCEOLA PRODUCTS CO. has installed at its Osceola, Ark., plant the world's largest self-contained grain drier. The unit was operated during the 1955 harvest season.

The drier, manufactured by Aeroglide Corp. of Raleigh, N. C., has a drying capacity of 2,000 bushels of soybeans per hour. Holding capacity of the drying and cooling tower is in excess of 4,000 bushels.

Fired with natural gas, the burner can develop an output in excess of 20 million btu's of heat per hour.

An outstanding feature of the drier is Aeroglide's exclusive "Climate Compensator" which allows the drier to be adjusted to produce maximum volume based on prevailing climatic conditions.

The drier handles the soybeans as they are received from the dump pits. All beans are routed through the drier prior to going into the large steel working storage ahead of the processing plant.

Research Foundation

ARTICLES of incorporation for the Soybean Research Foundation, proposed industrywide commodity group, have been prepared by the attorney and are being reviewed by the joint committee of the American Soybean Association and National Soybean Processors Association, according to Geo. M. Strayer, temporary president of the group.

Target date for putting the program of the Foundation into effect is still this coming May 1, Strayer says.

The Foundation will be incorporated in Illinois. It will be set up jointly by the two associations, and membership will be open to dealers and other interested groups.

Funds for financing the projects of the Foundation will be collected from producers through deductions on soybeans sold. The Processors Association will have responsibility for collections.

USDA, ASA Unite in Market Promotion

THE U. S. DEPARTMENT of Agriculture has announced it will cooperate with the American Soybean Association in developing and promoting markets for U. S. soybeans abroad.

The Department and the Association will work jointly in developing markets for soybeans in Japan, Western Germany and possibly other countries. Particular attention will be directed to grade and quality standards of U. S. soybeans.

Gwynn Garnett, administrator, Foreign Agricultural Service, indicated that the cooperative enterprise will include market development and research, sales promotion, and related activities. It will be conducted under an agreement between the Department and Albert Dimond, president, and George M. Strayer, secretary-treasurer, of the American Soybean Association of Hudson, Iowa.

It is expected that detailed agreements covering specific countries and projects will be negotiated within the framework of the overall agreement.

THE COVER PICTURE

Big Export Outlet

THE PUBLIC Grain Elevator at the Port of New Orleans, leading export outlet for soybeans, 2 years ago spent $7 million, doubling the binnage capacity to over 5 million bushels, adding a second marine leg and two mechanized rail dumpers.

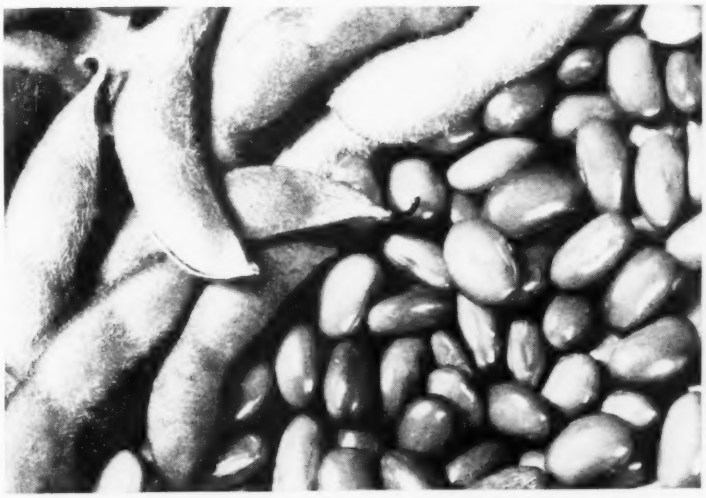
Since that time the barge traffic has nearly doubled at the elevator. And the resulting increase in receipts by rail has already created the need for enlarged yards which will soon be completed.

The largest hydraulic-type truck dumper built was installed at the elevator last August. Now in full operation, the 60-foot dumper can unload 12 to 15 trucks an hour and can handle any size vehicle. Truck shipments of grain and soybeans through the port have increased since its installation.

Picture shows the harbor of the Port of New Orleans, viewed from the upper end. The Public Grain Elevator is shown with the two automatic barge unloaders in operation, as well as the bulk grain loaders.

Immediately beyond the elevator are the Public Commodity Warehouse and the Foreign Trade Zone. Also shown are the tracks of the Public Belt Railroad.

SOYBEAN YIELD UP 53%
SORGHUM UP 33%
CORN UP 25%
with
SPERGON®
SEED PROTECTANT



Reports come in from all over the country: Corn yield increased up to 25%...with Spergon. Soybean yield increased up to 53.5%...with Spergon. Sorghum stands increased up to 33%, with alfalfa yields up substantially in every area...*all with Spergon.*

These are yield increases that really pay off at market time. Spergon will pay off for you by preventing seed decay, "damping off" and many other fungus diseases so rampant during cold, wet planting weather.

Spergon lubricates your seed for less planter breakage and easier planting. It is relatively inexpensive and, in addition, is non-hazardous to humans and animals.

Order Spergon from your local supplier today. Write, wire or phone us if unable to locate immediate source of supply.

SEE—Naugatuck Chemical Division, United States Rubber Company, at work on NBC's "Color Spread" TV spectacular, Sunday, March 25, 7:30 PM, EST.

US RUBBER

United States Rubber

Naugatuck Chemical Division

Naugatuck, Connecticut

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap, Duraset.

PUBLICATIONS

Test Herbicides on Soybeans at Ill.

WEED CONTROL. Both pre-emergence and post-emergence herbicides on soybeans were tested in field experiments at the University of Illinois in 1953 and 1954 with varying degrees of success.

The results obtained with pre-emergence applications were highly dependent on weather conditions following application. CIPC and DNBP gave the best results though none was completely satisfactory for weed control in soybeans.

CIPC gave good weed control with little injury to soybeans. DNBP caused some early injury and stand reductions but no reductions in yield. NP, sodium PCP and 2,4-D gave varied results.

Lion Herbicidal Oil No. 1 (LHO-1) used post-emergence caused some immediate injury to soybeans but the beans recovered rapidly.

Yield reductions did not occur until stands were reduced to approximately one-half the original stand.

DNBP caused more injury to soybeans planted at different depths than did CIPC.

DNBP was more toxic than CIPC to the germination and root elongation of cotton and soybeans.

CIPC was more injurious than DNBP to the growth of soybean seedlings. DNBP gave similar effects on all growth stages. CIPC was more toxic to the younger stages than to the older stages.

At temperatures 85° F. and above most of the CIPC was lost from the soil after an incubation period of 4 weeks.

THE RESPONSE OF SOYBEANS TO SELECTED PRE-EMERGENCE AND POST-EMERGENCE HERBICIDES. By Roy Jefferson Smith, Jr., University of Illinois, Urbana, Ill. Diss. Abs. 15:666-667. May 1955.

WEEDS. For the past 3 years the department of field husbandry of Ontario Agricultural College has been experimenting with Premerge and for 2 years Alanap in control of weeds in soybeans.

The soybeans were planted and the soil surface smoothed before applying the spray. The spray was applied almost immediately after planting using approximately 80 gallons of spray per acre.

Weed control with both Premerge and Alanap was quite effective under the conditions encountered in the tests.

No reduction in yield from the treatments was shown the first 2 years, but it was thought there might be some reduction in yield from Alanap the third year.

There is some doubt that these products will be effective if moisture is not available soon after application. In all 3 years some rain occurred after the plots were sprayed.

CHEMICAL WEED CONTROL IN SOYBEANS. By G. Jones, Field Husbandry Department, Ontario Agricultural College, Guelph, Ontario. Canada Natl. Weed Comt. East Sect. Proc. Vol. 8, pages 113-115. Published 1955.

MELLORINE. Vegetable fats can be produced cheaper than butterfat.

Today 36 pounds of soybean oil can be produced per man hour, and 220 pounds can be produced per acre. But only 3 to 4 pounds of butterfat can be produced per man hour, and 73 pounds per acre, according to University of Missouri Bulletin 658.

"Unless it becomes evident that butterfat is more valuable for human nutrition than the vegetable fats, or preferences for it increase in relation to those for the vegetable fats more than has been evident in the past, it is inevitable that the vegetable oils which can be more cheaply produced will continue to replace the more expensive butterfat," according to the bulletin.

"Consumers, in the aggregate, are interested in securing the greatest amount of palatable nutrition per unit of land, labor, or capital expended and will endeavor to do so without regard for the welfare of the dairy industry.

"The practice of high government support prices on butterfat undoubtedly has contributed directly to the growth of substitute products."

The bulletin tries to measure the impact of mellorine or frozen vegetable fat desserts on the dairy industry, but takes no cognizance of the fact that soybeans and cottonseed, on which the mellorine industry depends, are both important Missouri crops.

DAIRY SUBSTITUTES IN MISSOURI. By Stephen F. Whitted. Bulletin 658. Missouri Agricultural Experiment Station, Columbia, Mo.

For a complete list of books and experiment station publications relating to soybeans drop a postcard to Circulation Department, Soybean Digest, Hudson, Iowa.

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60 Second Electronic
MOISTURE TESTER
• Easier to Operate
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EQUIPMENT COMPANY
Dept. SD3, 618 W. Jackson Blvd., Chicago 6, Ill.

PLANTING DATE. Effect of planting at four dates on five varieties of soybeans was studied at the University of Wisconsin over a period of 5 years.

Planting date had little effect on yield of early varieties but for late varieties yield tended to decrease with plantings made after May 20.

Oil content of Flambeau and Mandarin 507 were not affected by planting date while for the later maturing varieties a progressive decrease occurred with later plantings.

Protein content showed no tendency to decrease with delay in planting. There was an increase in iodine number with delay in planting, and it was consistent for all varieties.

Maturing date for all varieties was retarded approximately 1 day for each 2 days delay in planting.

Date of planting had no effect on lodging. Seed quality tended to be better at the later planting dates for all varieties save Mukden.

EFFECT OF PLANTING DATE ON YIELD AND CHARACTERISTIC OF SOYBEANS. By H. Torrie and George M. Briggs, University of Wisconsin, Madison. Agronomy Journal, Vol. 47, May 1955, pages 210-212.

Miscellaneous

EXTRACTION OF SOYBEANS, THEORY AND MECHANISM. By Donald F. Othmer and Jagdish C. Agarwal, Polytechnic Institute, Brooklyn, N. Y. Chemical Engineering Progress, August 1955, pages 372-378. 25 West 45th St., New York 36, N. Y.

LETTERS

To Make High Yields

TO THE EDITOR:

Was much interested in your report of the 5-acre soybean contest conducted last year in Indiana. Would like to see through your columns a report on how these farmers can produce such yields, something we cannot do here in central Illinois.

Just received today a soybean yield report put out by our Agricultural Experiment Station, in which it shows how seven varieties were tested in Macon County and the average yield was 35.7 bushels per acre. The best yield was Adams at 38.8, Harosoy 37.2 and Hawkeye 37.1. —*Robert M. Walker, Mansfield, Ill.*

Said K. E. Beeson, Purdue University extension agronomist, after checking over 1,214 reports by Indiana state yield contestants: "I feel that the growers who are going to produce high yields of soys must have in the first place a high fertility level and be excellent farmers. Then nature must be kind to them, giving them an adequate supply of moisture, sunshine, air and the correct temperature." Mr. Beeson says high yielding varieties are also important.—EDITOR.

Price Prediction

TO THE EDITOR:

We boys here in Hutchinson look for beans to make $2.50 and later $2.75.

I like to read your Digest.—*Rolly J. Gresham, Hutchinson, Kans.*

Gyratory Screen

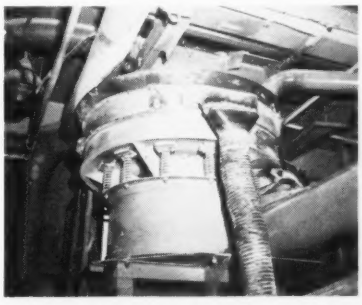
Problem: To insure product uniformity in the manufacture of Megasul at fine chemicals division, American Cyanamid Co., Pearl River, N. Y., fine mesh soybean meal was required. Fine mesh soybean meal was needed so that nitrophenide could be mixed uniformly with it in order to produce a final product that would not segregate.

Megasul consists of 75% oil- extracted soybean and 25% nitrophenide. Product is used as feed supplement for the prevention and control of coccidiosis in chickens.

Solution: About 2 years ago, company installed a gyratory screen, known as a Sweco separator model B-1D, for use in the Megasul process. Gyratory motion of unit gives material a spiral action, providing highly efficient screening. Unit in use is 4 feet in diameter and 2½ feet high.

Reason that the mixture of soybean meal and nitrophenide is screened instead of just the soybean meal is to assure a final product of less than 10 mesh (.0742" opening) size.

Result: Use of the gyratory separator has insured a uniform quality product. Separator has required no maintenance except lubrication.



GYRATORY SEPARATOR at Cyanamid's fine chemical division handles 100 pounds of material per minute, removing all particles over 10 mesh. Note minimum headroom required.

YOU Should be MUCH RICHER TODAY Than 6 Months Ago!

If not, WAKE UP, man! Billions of dollars PROFIT in stocks and commodities. TREMENDOUS PROSPERITY ahead, for FREE nations of world!—(Only Communist countries are hungry, ragged, depressed!)

GOOD STOCKS — going higher — some MUCH higher. Our subscribers made fortunes, on OUR advices: Bought

GILLETTE at	$ 1.50—now	$81.00
KIMBERLY CLARK	9.00—now	52.00
GOODRICH at	3.00—now	72.50
UNION BAG at	22.50—now	94.50
WHEELING STEEL	13.00—now	56.00
WORTHINGTON	14.00—now	50.50

COMMODITIES — Wheat, soybeans, corn, rye, cotton, rubber, coffee—*all these 7 GREAT commodities* are covered in our TUESDAY and FRIDAY letters, giving *definite* advices WHAT to buy, margin required, commissions, PROFIT POSSIBILITIES, ACTION and BIG PROFITS.

SUBSCRIBERS WRITE: "Have taken over $100,000 profit out of commodity trades the past two years, because of your service." KANSAS.—"Your advices nearer correct than any I ever followed." GA.—"Best service I ever have taken." OHIO.—"I started on a shoe string—have made nice profits on your advice. Your service is TOPS."—NEBR.—"Have subscribed to several commodity advisory services—honestly believe YOURS the BEST I have EVER seen." ALA.—"Your ACCURACY in forecasting is AMAZING to me." KANSAS.—"Find check for $25 for 3 months renewal.—You certainly hit every turn of the market right 'on the nose'. I stuck with another service for 6 months and lost $7,000. By using your advice I'm beginning to climb out." IOWA.—"Several people whose names I sent you are taking your service and MAKING MONEY. One made about $26,000 last year on $5,000 to begin with. Had to pay Uncle Sam $12,000, which 'hurt' him."—N. C. BROKER.—"A friend told me that on your advice during past 3 weeks he made over $5,000 on JULY soybeans," CALIF. —"Have taken thousands of dollars from the market on your advice—believe it entirely possible to average $1,000 per month." MICH.—"Had over 10 different services—must say YOURS TOPS THEM ALL.—If you get customers from Minnesota and Dakotas, that's a plug from ME. My year's renewal speaks for itself." IOWA.—Did so WELL on your MARVELOUS advice, here's $100 bill as 'thank you' present." MASS.

SPECIAL "GET ACQUAINTED" OFFER: Our next 5 TUESDAY & FRIDAY letters, covering ALL markets mentioned above, also (FREE) our latest lists: 7-low-priced stocks; 7-high-quality stocks; 7 finest quality stocks—that should advance MUCH higher—*EVERYTHING mentioned, $1.00.*—USE ORDER FORM BELOW.—NOW!

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GRITS and FLAKES . . . *from the World of Soy*

Form New Corporation

A. B. Osgood, president of the **Day Co.,** and B. L. Tomlinson, president of **Arid-Aire Manufacturing Co.,** jointly announce the formation of Daycom, Inc. The new corporation is to handle sales and distribution, as well as engineering, research and development of Arid-Aire driers.

Roy E. Gorgen

Officers of Daycom, Inc., will be Roy E. Gorgen, president; Arthur C. Bredesen, Jr., vice president and general manager; Ben L. Tomlinson, vice president in charge of engineering and research; and Richard L. Marquardt, secretary.

According to Mr. Gorgen, the association of Arid-Aire with the Day Co. will result in increased manufacturing facilities for Arid-Aire and better service to the grain and milling industry through solutions to grain drying problems.

Elected by A-C

Willis G. Scholl was elected executive vice president, **Allis-Chalmers Mfg. Co.,** and Boyd S. Oberlink was elected vice president in charge of tractor group at a meeting of the firm's board of directors recently.

Scholl started with Allis-Chalmers in 1936 as a salesman in Columbus, Ohio. He was elected to the board of directors in 1953.

Willis G. Scholl

Boyd S. Oberlink

Oberlink succeeds Scholl as tractor group executive.

Oberlink began working in the Allis-Chalmers tractor division in 1934. He was named vice president, tractor division, in 1951 and vice president and general manager, construction machinery division, last year.

Swift Transfer

E. F. Czichos, who has been division manager of all **Swift & Co.,** cottonseed oil mills in the South, has been transferred to Chicago as assistant head of the organization's oil mill department, according to C. T. Prindeville, vice president.

E. F. Czichos

Mr. Czichos has had his headquarters at Memphis, Tenn.

A veteran of 40 years in the oil mill business, he joined Swift as a stenographer and scale clerk at the Waco, Tex., oil mill in 1915, at the age of 19.

Joins Glidden Co.

Dr. William von Fischer, for the past 8 years head of the department of chemistry and chemical engineering at Case Institute of Technology, has been appointed coordinator of research and development for the **Glidden Co.** He will assume his new position at the close of the present academic year.

Dr. William von Fischer

An outstanding authority in chemistry, he is the editor of Paint and Varnish Technology and co-editor of Organic Protective Coatings.

In his new position Dr. von Fischer will coordinate research and development activities of the paint, chemicals-pigments-metals, Durkee Famous Foods, southern chemical and chemurgy divisions of the Glidden Co.

Buckeye Man Retires

J. O. Wilson, formerly a vice president of the **Buckeye Cotton Oil Co.,** has announced he has retired after 36 years with Buckeye.

J. O. Wilson

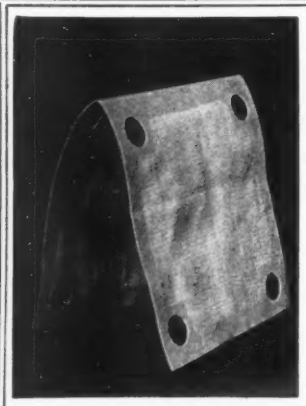
Mr. Wilson, 68, of Atlanta, has been in charge of all Buckeye purchases of cottonseed and soybeans since he became a vice president of the company in 1930.

Mr. Wilson's successor as manager of seed buying for Buckeye will be W. R. Flippin, Memphis, who previously was western division manager. He will continue to reside in Memphis.

S. P. Cottraux, eastern division manager of seed buying for Buckeye, will continue to maintain his headquarters in Atlanta.

Dr. C. M. Woodworth, chief, plant genetics division of the **University of Illinois** department of agronomy, and Mrs. Woodworth were honored Feb. 1 at the Illinois Crop Improvement Association at its banquet. His achievements include development of Chief, Illini and Viking soybean varieties. He will retire from the faculty next September.

Five-day convention of the Grain Elevator and Processing Superinten-



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dents will be held at Hotel Muehlebach in Kansas City, Mo., the week of Mar. 18. Soybean and flax roundtables will be held Mar. 21.

Chester B. Biddle, Remington, Ind., past president of the American Soybean Association, has been awarded a 1955 Certificate of Distinction by Purdue University agricultural alumni for "service beyond the call of duty." He has served as president and director of the Purdue Agricultural Alumni Association and as director of the Purdue Agricultural Alumni Seed Improvement Association.

The **National Agricultural Chemicals Association** will hold its 1956 spring meeting Mar. 14-16 at Hollywood Beach Hotel, Hollywood, Fla.

Dr. Arnold Klemme has been named assistant director of the **Missouri Agricultural Experiment Station**. Formerly extension soils specialist for Missouri, Klemme is returning after 2½ years leave of absence, during which he has been in San Antonio, Tex., developing two large tracts of land for agricultural production.

Kenneth D. Naumann has been appointed a sales representative for **American Mineral Spirits Co.** He will represent Amsco in the Midwest in the marketing of the firm's complete line of technical naphthas and petroleum solvents. He joined Amsco last September.

R. C. Horn has retired as manager of **Bemis Bro. Bag Co.'s** Indianapolis plant and sales division, effective Jan. 30. He was succeeded as manager by D. A. Clarke, assistant manager. Mr. Horn started with Bemis in 1906, was made manager in 1953. Mr. Clark joined Bemis in 1938 in St. Louis, was transferred to Indianapolis in 1954.

Dixon Jordan, president of the **Memphis Board of Trade,** was featured on the front cover of the February issue of Livestock Magazine. Picture showed him presenting the grand champion steer award at the Midsouth Livestock Show.

Dates for the combined **American Feed Manufacturers Association** 49th annual convention and the fifth National Feed Industry Show have been set for May 1-3, 1957, at the Conrad Hilton Hotel, Chicago. This will be the first time the two events have been held simultaneously. The 1956 convention of the American Feed Manufacturers Association will be held at the Morrison Hotel, Chicago, May 23-25.

J. B. Edmondson, Danville, was presented a soils and crops award by **Indiana Crop Improvement Association** recently in recognition of his pioneering work in soybean production. "Ben" is a past president of the Association, and also served on the board of directors of the American Soybean Association for many years.

How competitive pricing in transportation would help you

In most American businesses, the benefits of greater efficiency can be passed on to the public. In the transportation business, however, this is not always the case.

Consider what has happened on the railroads:

In the last 30 years the speed of the average freight train has gone up more than 50 per cent; the load has nearly doubled and the hourly output of transportation has increased nearly three times.

To make possible these and other gains in efficiency, the railroads have spent, since the end of World War II, nearly $11,000,000,000 – every dollar of which was financed by the railroads themselves.

But – as is shown in the report of a special Cabinet Committee appointed by the President – government regulation frequently denies to the public the benefit of the lower costs of the most economical form of transportation, so as to protect the traffic and revenues of carriers with higher costs. The result, as the Cabinet Committee says, is that shippers and the consuming public must pay more for freight transportation than would otherwise be necessary.

What can be done to correct this unhealthy situation?

The special Cabinet Committee recommended that railroads and other forms of regulated transportation be given greater freedom to base their prices on their own natural advantages. At the same time, regulation would continue to prevent charges which are unreasonably high or unreasonably low, or are unduly discriminatory.

This would make it possible to pass on the benefits of the most efficient operations to shippers, producers and retailers, and to the consuming public which in the end pays all transportation costs.

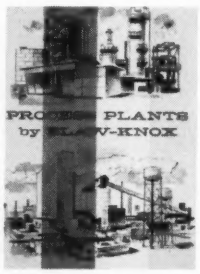
Bills based on Cabinet Committee recommendations have been introduced in Congress. For full information about this vital subject, write for the booklet, "WHY NOT LET COMPETITION WORK?"

Association of American Railroads

Transportation Building, Washington, D. C.

NEW PRODUCTS and SERVICES

PROCESSING PLANTS. Design, engineering, construction and initial operation of process industries plants by the chemical plants division of Blaw-Knox Co. are outlined in a new catalog just announced.

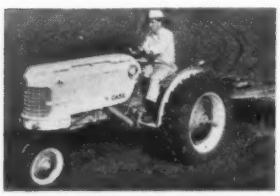


Entitled "Process Plants by Blaw-Knox," the brochure is designed to provide information on the diversity and scope of work undertaken and completed in the process industries field.

The 20-page publication is illustrated with photographs of major projects and covers the fats and oils as well as many other industries.

For copies of the catalog, Bulletin No. 2514, write Soybean Digest 3A, Hudson, Iowa.

TRACTOR. A new three-plow tractor, the Case "300," has a triple range transmission with 12 overlapping gear speeds forward, plus three reverse. Purpose is to provide perfect matching of travel speed to crop condition at constant PTO speed as needed for harvest machines; also for greatest capacity and best economy at all combinations of speed and load in tillage work.



Buyers have choice of diesel engine or high-compression gas engine with models for gasoline, LP gas and distillate.

For further information write Soybean Digest 3C, Hudson, Iowa.

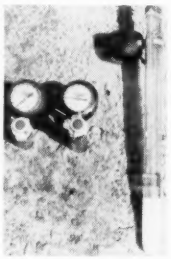
AUGER. A tough and versatile auger that handles both dry and liquid materials has been announced by the Dultmeier Manufacturing Co. Called the Auger-Scoop, the tool is adjustable from 16 to 21 feet and is 4 inches in diameter.

The auger will operate with either one-half-inch electric drill, electric motor or gas engine.

The Auger-Scoop will lift or transfer many different materials including water or farm products such as grains.

For complete information and prices write Soybean Digest 3D, Hudson, Iowa.

SOIL MOISTURE. T. W. Prosser Co. is marketing a laboratory and field-proved soil moisture indicator. The instrument, called an Irrometer, automatically evaluates the many varying soil and climate factors, and registers available soil moisture continuously.

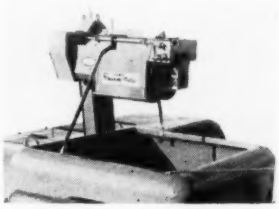


According to the manufacturer, neither varying types of soil or soluble salts affect the accuracy of the instrument, nor are calibrations necessary.

Irrometers are normally used in pairs, with a short instrument for the upper root zone and a long one for the lower root zone. By occasionally reading the Irrometer gauges, located in key areas, the farmer can tell when and how long to irrigate.

For literature and case histories in a variety of crops write Soybean Digest 3B, Hudson, Iowa.

MEASURES GRAIN. American Iron Works announces that it is expanding its sales territory in the Midwest, South and Southwestern states with the appointment of distributors in these areas.



Originally designed for use on combines to measure grain either by weight or volume, many additional uses have been found for "Measur-Matic."

In addition to its growing use by seed cleaners and treaters, Measur-Matic is finding wide acceptance for accurately measuring the grains and ingredients used in cattle and poultry feeding.

For further information write Soybean Digest 3e, Hudson, Iowa.

A-C DIRECTORY. A new 24-page directory, "This Is A-C from A to Z," has been released by Allis-Chalmers Manufacturing Co.

In addition to an alphabetical description of company products and their descriptive literature, the directory has a brief history of Allis-Chalmers.

Copies of B6057 are available on request. Write Soybean Digest 3f, Hudson, Iowa.

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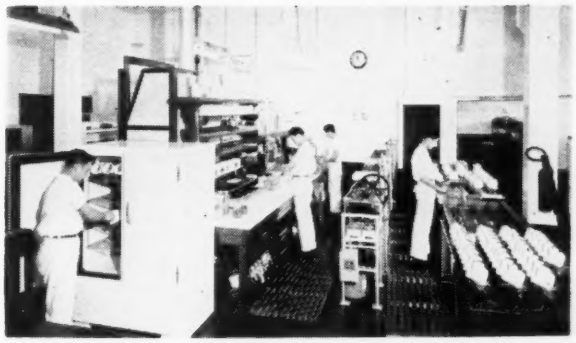

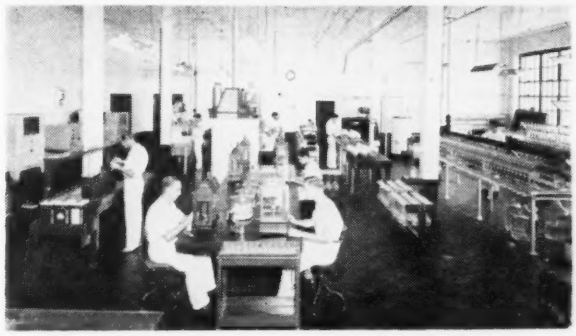

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WASHINGTON DIGEST

Think Soybean Peak Near

By PORTER M. HEDGE
Washington Correspondent for
The Soybean Digest

OUTLOOK. Department of Agriculture fats and oils officials are taking a moderately bullish view of the price outlook for the balance of the current marketing year.

Nothing like a runaway market, but a fairly steady one, with supply possibly getting a little tighter this spring and summer. It all depends on exports, which now are moving in excellent volume.

For the year as a whole USDA is estimating total food fat exports up as much as 15% above last year's high. The big increases are in lard, soybeans, and in edible vegetable oils.

A note of caution is pencilled into the outlook, however. It is that exports can't be expected to be as large as now indicated if prices of oil crops get too high.

They haven't been so far. Soybeans, for example, averaged $2.11 a bushel at the farm during the first 4 months of the marketing season. Average last year was $2.56½ a bushel. However, there has been a steady increase in soybean prices this season from the low of $2.06 a bushel, average, at the farm in November of 1955.

Officials are not concerned about soybean prices getting out of line so far as export prospects are concerned. Meal prices are low and have drifted a little lower in recent weeks.

Most of the market men here feel that soybeans may either be at the peak for this marketing season now, or be approaching the peak. Possibly a little more increase from now on out, but not much.

All of the increase in the total supply of soybeans last October over October 1954 is accounted for in inspected receipts. Processor inventories are unusually high. A big acreage will go into soybeans this spring.

1956 ACREAGE. USDA officials have made a tentative estimate that something like 21½ million acres will be planted to soybeans this year. This is an increase of about 1.4 million acres over a year ago.

Acreage estimated for harvest is around 20 million—up about 1½ million from a year ago.

None of these estimates take into account what might happen to the farm bill in Congress. In other words, no special allowance for increase in soybean plantings is made because of possible changes in legislation.

The intent of legislative proposals sent to the Hill by the President was to encourage some additional planting of soybeans. This also was the intent back of the increase in soybean price support for the 1956 crop from $2.04 to $2.15 a bushel.

Based on very preliminary estimates of USDA officials, a 1956 soybean crop of something over 400 million bushels could be expected. Even so, no real soybean trouble is anticipated by officials.

EXPORTS. USDA has officially estimated soybean exports at 70 million bushels for the first time this season. Though not official, there is some thinking that shipments might actually go still higher.

Exports are about 10 million bushels ahead of last year now. Actual exports through December, plus inspections for export in January and the first 10 days of February, total 43,570,000 bushels. The same figures for the comparable period last year were 33,375,000 bushels.

Total exports of cottonseed and soybean oil were estimated at 1,775 million pounds late in January. This figure would be raised a little (and ending stocks correspondingly reduced) if officials were making the appraisal now.

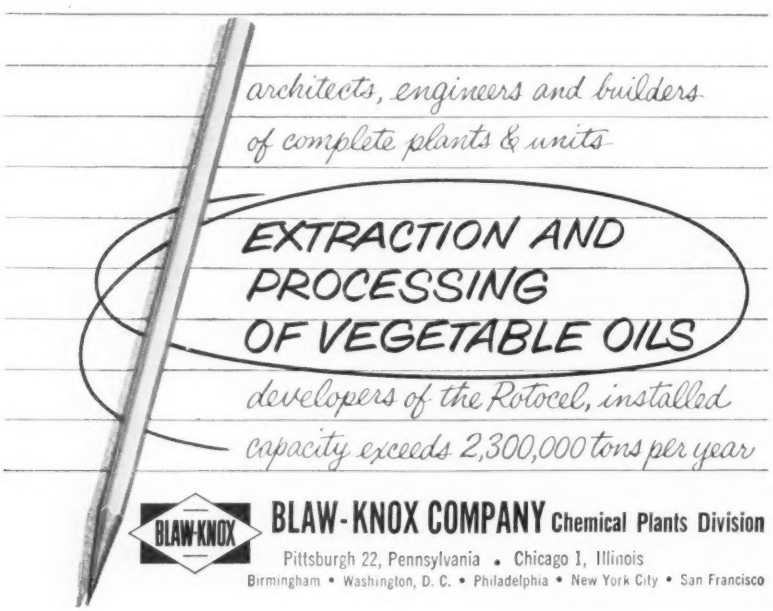
USDA figures edible oil exports (not counting soybeans) will be up at least 20% over a year ago. It's due mainly to the shortages of olive oil in Europe and the short sunflower seed crops in Latin America.

Exports to Argentina are figured to increase around 65 million pounds over the year before; to Spain, Italy and Greece by 335 million pounds; to Western Germany, Israel and other Latin American countries an increase of 85 million pounds. These figures may be a little low if present prospects go through.

It further appears that ending stocks of food fats next October will be down at least 200 million pounds (probably more) below the fall of 1955. The reductions will be in vegetable oils and butter. Some increase is expected in lard ending stocks.

USDA recently has issued purchase authorizations for export of 143,402,000 pounds of fats and oils to Spain, Italy, and Colombia. All are under the Public Law 480 export program.

The authorizations are: 103,588,000 pounds of soybean oil or cottonseed oil to Spain; 32,100,000 pounds of soybean or cottonseed oil to Italy as a substitute for an equivalent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capacity exceeds 2,300,000 tons per year
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value of wheat previously agreed to; 7,714,000 pounds of soybean, cottonseed oil or lard to Colombia.

Detailed projects for the cooperative market development program for soybeans recently announced between USDA and the American Soybean Association are now being worked out.

USDA and ASA are to work jointly in promoting soybean markets in Japan, Western Germany, and possibly other countries. Special attention is to be given to foreign consumer preferences, and U. S. grade and quality standards for soybeans.

Market development, research, sales promotion, and related activities are to be included in the program, says USDA. It is not yet prepared to announce specifically what these are, but such projects might take many forms.

SUPPORTS. The 1956 price support program for soybeans is to be handled in the same way as in the past—through loans and purchase agreements available from time of harvest through Jan. 31, 1957. Maturity date for the loans will be the same, May 31, 1957.

Soybeans must grade No. 4 or better and contain not more than 14% moisture to be eligible for price support. The 1956 loan rate is 11¢ a bushel, average, above the 1955 loan.

The new Senate farm bill — S. 3183—containing the controversial revisions to present farm laws has a provision intended to keep price supports for soybeans and cottonseed on equal terms.

The provision says that whenever the price of either cottonseed or soybeans is supported under the act, the price of the other should be supported at such a level as the Secretary of Agriculture determines will cause them to compete on equal terms on the market.

Complete Facilities

CONTINUING an expansion program that began immediately after World War II, the California Pellet Mill Co. recently completed new production facilities in North Kansas City, Mo., and Crawfordsville, Ind.

The North Kansas City plant replaces the former Kansas City plant and increases the company's operation in Missouri by more than 100%. Ample surrounding land is available for future expansion.

Concurrently, the 15,000-square-foot expansion to the company's Crawfordsville plant has also been completed. Since acquiring this Indiana factory in 1946 three expansions have been made and it is now more than four times its original size.

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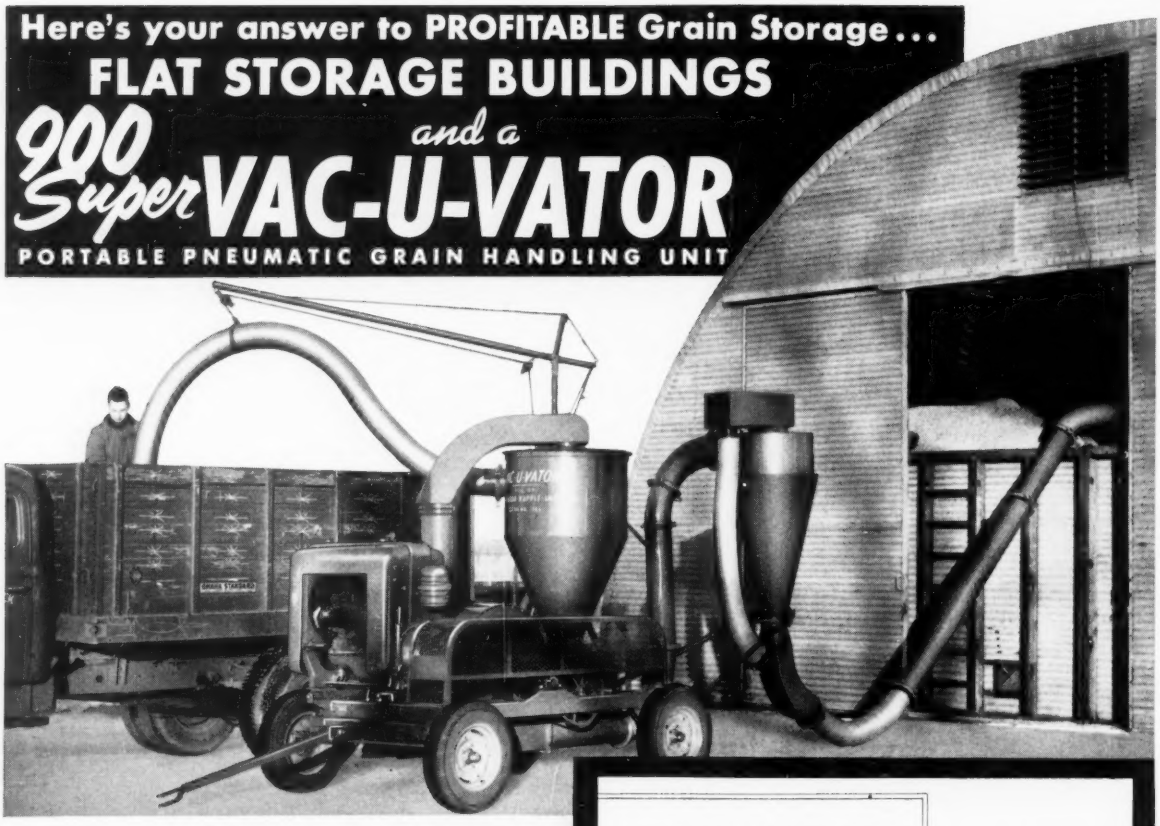
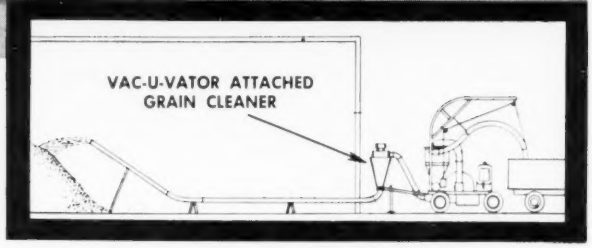


Flat storage buildings provide an ideal, practical and low-cost method of safely storing grain . . . the VAC-U-VATOR provides the easiest and most economical method of moving grain to and from flat storage. Together they provide the answer to a very economical and profitable grain storage operation. The VAC-U-VATOR is fully portable and requires only one man to operate it . . . the use of this unit can assure the quality of the grain and actually "up-grade" it. The VAC-U-VATOR also provides a means for the "turning" of grain without using additional storage facilities. All this, of course, results in lower grain handling costs and increased profits.



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Oklahoma City, Oklahoma

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Mr. O. W. Martin
Apex Terminal Warehouse Co.
New Haven, Indiana

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Mr. K. W. Carter
Carter Grain and Implements
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Mr. John W. Simmons
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We invite the readers of THE SOYBEAN DIGEST to use MARKET STREET for their classified advertising. If you have processing machinery, laboratory equipent, soybean seed, or other items of interest to the industry, advertise them here.

Rate 10c per word per issue. Minimum insertion $2.00.

PERFORATED METAL — CAN supply round hole and slotted zinc material for all makes soybean cleaners. Pioneer Fanning Mill Co., 1328 North Second St., Minneapolis, Minn.

FOR SALE: ROANOKE, LEE, Jackson, Ogden, Clemson, JEW-45, Nanksoy, S-100, Woods Yellow, Black Wilson and other varieties select and certified seed soybeans. Also a complete line of field and pasture seeds. Gurley Milling Co., seed dept., phone 2303, Selma, N. C.

FOR SALE — FLAKING AND cracking rolls, meal toasters, filter presses, hammer mills, Anderson 14-inch conditioners, 36-inch cookers. Pittock & Associates, Glen Riddle, Pa.

MISSISSIPPI CERTIFIED LEE soybeans. Low moisture means high germination. Bagged in cotton-burlap-paper (1 bu. bags). Will furnish you with years of growing experience and tell you how to get them up after killing weed and grass seed. A few non-certified for price buyers. Best seed produce high yields. Bard Selden, Hollywood, Miss.

FARM EQUIPMENT — BUY SURplus direct from government at tremendous savings. Farm tools, machinery, feed, truck, jeep, tractor. Hundreds others. List $1.00. Box 169SAF, East Hartford 8, Conn.

SITUATION WANTED—HAVE 21 years of experience in the oilseed industry various parts of world. Educated in England, operated own business in China 1948-50, now employed Hong Kong. Would like position with U. S. firm either in U. S. or as foreign representative. Full details and reference gladly supplied. Write Box 319H, Soybean Digest, Hudson, Iowa.

BAG CLOSERS: FISCHBEIN portable bag closers in stock for immediate shipment. Write for circular and prices. Douglas L. Mains Co., 1034 College Ave., Wheaton, Ill. Phone Wheaton 8-7474.

BINS FOR SURPLUS STORAGE. Overcome your lack of storage space with government-type grain bins, 18 x 16 feet, 3,250 bu. level full, approx. 3,500 bu. heaping full capacity. Write for attractive prices. Midwest Steel Products Co., Railway Exchange Bldg., Kansas City 6, Mo.

WANTED — MANAGER. NEW 45 ton per day hexane processing plant in upper Midwest needs manager to take over operation, oil and meal sales. Address inquiries to Soybean Digest, Box 319N, Hudson, Iowa.

WANTED TO BUY — YOUR EMPtied burlap and cotton sacks. Tie in bundles and ship to us. Top prices paid. Sterling Bag & Burlap Corp., 41 Carolina St., Buffalo 1, N. Y.

FOR SALE—OTTAWA MANDARIN and Chippewa certified seed beans. Also Selkirk wheat, Rodney and Improved Garry oats. Eldred Buer, Canby, Minn.

FOR SALE: ONE NO. 34 WESTERN gyrating cleaner like new; one double sawtooth Robinson crusher A-1 shape; one 30-inch Bauer attrition mill with 30 H.P. motors, starters, reverse switch fuse box, plates. Neidlinger Elevator, Holcomb, Ill.

SEED DIRECTORY

A charge of $3 will be made to subscribers for listing one variety in the April issue: and $1.50 for each additional listing. Quantity for sale and variety are listed.

ALABAMA

Northport—J. Lewis Harper, 800 bu. certified Jackson.

ARKANSAS

Burdette—G. A. Hale, Hale Seed Farms, 5,000 bu. registered Hale Ogden No. 2.

Harrisburg—W. D. Thomas, Box 545, 3,300 bu. certified Lee, 2,200 bu. uncertified Lee.

Morrilton—Stallings Bros. Feed Mills, P. O. Box 168, 2,000 bu. certified Lee, 6,000 bu. uncertified Ogden.

Stuttgart—Jacob Hartz Seed Co., Inc., P. O. Box 109, certified Lee, certified Jackson, certified Dorman, uncertified Ogden, uncertified Volstate, uncertified J. E. W. 45.

ILLINOIS

Camp Point—Moore Seed Co., 2,800 bu. certified Clark; 1,800 bu. certified Harosoy.

Emden—Boerma Bros., 2,400 bu. certified Clark.

Mansfield—C. Leslie James, Rt. 1, 1,200 bu. certified Clark.

Metamora—Ezra Schlipf, 4,000 bu. registered Clark.

Prophetstown — Clyde G. Chamberlain, Rt. 1, Box 202, 1,200 bu. certified Harosoy.

Saunemin—Ben Wiegand, 1,100 bu. certified Harosoy.

Ursa—Frank W. Lewis & Son, Box 42, 400 bu. certified Perry, 2,000 bu. certified Clark, 1,200 bu. certified Harosoy, all in new 1½ bu. bags.

Villa Grove—Turner Seed & Supply, 3,000 bu. reg. certified Hawkeye, 6,000 bu. reg. certified Lincoln, 1,000 bu. reg. certified Clark.

INDIANA

Amboy—Lowell G. Pence, Rt. 1, 1,500 bu. certified Harosoy.

Evansville—J. A. McCarty Seed Co., 526 N. W. Fourth St., certified and uncertified Clark, certified and uncertified Wabash, uncertified Perry.

Poneto—Fred Grover, Rt. 1, 1,000 bu. certified Lincoln, 1,750 bu. certified Clark.

Valparaiso—Wyckoff Hybrid Corn Co., 1,500 bu. certified Harosoy, 300 bu. certified Blackhawk, 1,500 bu. uncertified Monroe.

IOWA

Charles City—Sar Seed Farms, 804 N. Main, 600 bu. certified Blackhawk.

KANSAS

Reserve—Harvey L. Armstrong, 250 bu. certified Clark.

MICHIGAN

Dundee—Russell Houpt, Rt. 1, 800 bu. certified Harosoy, 400 bu. certified Blackhawk.

Ottawa Lake — Edward Brodbeck, 7726 Yankee Road, 1,000 bu. certified Chippewa.

MINNESOTA

Fairmont—J. H. Schrooten, Rt. 1, 700 bu. certified Chippewa.

Hartland—Sig Barge & Son, 70 bu. Chippewa, 100 bu. Ottawa Mandarin, 60 bu. Renville, 150 bu. Blackhawk, all certified first generation.

Lake Crystal—Wayne Othoudt, 600 bu. certified Chippewa, 120 bu. certified Ottawa Mandarin, 150 bu. certified Blackhawk, 150 bu. uncertified Renville.

Sacred Heart—Enestvedt Bros., 1,000 bu. reg. and certified Renville, 1,000 bu. reg. and certified Blackhawk.

St. Peter—Art Norell & Son, Rt. 3, 400 bu. certified Chippewa.

West Concord—Victor Emerson, 250 bu. certified Chippewa.

MISSISSIPPI

Gunnison—Boyd Lane Plantation, 500 bu. certified Roanoke.

Hattiesburg—Leo W. Klarr, Ellkay Farms, Rt. 1, 2,500 bu. certified Jackson.

Hollywood—Bard Selden, 5,000 bu. certified and uncertified Lee.

Ruleville—T. L. Milburn, P. O. Box 4, 6,000 bu. certified Roanoke.

MISSOURI

Caruthersville—J. H. Hutchison, Jr., Hutchison Farms, 3,000 bu. certified Dorman, ,000 bu. certified Ogden.

Eureka—Emil L. Wallach, 1,000 bu. certified Perry.

Jamesport—Farmers Produce Co., 15,000 bu. Clark, first year from certified, 2,000 bu. blue tag certified Clark.

Louisiana — Farm Supply Co., 3rd and Alabama Sts., 1,000 bu. certified Clark, 2,000 bu. certified Harosoy.

St. Louis 2—Cypress Land Farms Co., 314 Merchants Exchange Bldg., 5,000 bu. uncertified Clark, 5,000 bu. uncertified Ogden, 5,000 bu. uncertified Dorman, 2,000 bu. uncertified Perry.

NEBRASKA

Beaver Crossing—Marvin Cast, Rt. 2, 700 bu. certified Clark.

St. Libory—Henry Schutz, 200 bu. Nebraska certified Hawkeye.

Wood River—Loyd Boeka, 200 bu. certified Harosoy; 500 bu. certified Hawkeye; 1,500 bu. certified Adams.

NORTH CAROLINA

Aberdeen—D. P. Troutman, 840 bu. N. C. registered Lee, 450 bu. N. C. certified Lee.

Bladenboro—A. W. Shaw, Rt. 2, Box 47, 1,000 bu. certified Lee.

Raleigh—Robert H. Morrison, Jr., 403 Brooks Ave., 200 bu. certified Lee, 100 bu. certified Jackson.

Selma—Gurley Milling Co. of Selma, N. C., Inc., P. O. Box 488, 1,000 bu. uncertified Wood's Yellow, 2,000 bu. uncertified mixed hay beans, 10,000 bu. uncertified Roanoke, 1,000 bu. certified Roanoke, 5,000 bu. uncertified Ogden, 1,000 bu. certified Ogden, 5,000 bu. uncertified Lee, 10,000 bu. certified Lee, 5,000 bu. uncertified Jackson, 2,000 bu. certified Jackson, 10,000 bu. uncertified Clemson, 10,000 bu. uncertified J.E.W. 45, 1,000 bu. uncertified Nanksoy, 1,000 bu. uncertified S-100, 1,000 bu. uncertified Early Wood's Yellow, 1,000 bu. uncertified Tokyo, 1,000 bu. uncertified Yelnando, 2,000 bu. uncertified Biloxi, 5,000 bu. uncertified Otootan, 15,000 bu. uncertified Black Wilson.

NORTH DAKOTA

Leonard—Edw. F. Manthei, Rt. 1, 2,000 bu. certified Hardome.

OHIO

Covington—Ebberts Field Seed Co., Rt. 2, 5,000 bu. certified Hawkeye.

OKLAHOMA

Grove—Walter L. Manning, Rt. 1, 175 bu. certified Dorman.

ONTARIO

Chatham—St. Clair Grain & Feeds, Ltd., Box 330, 600 bu. registered No. 1 Hardome, 3,000 bu. registered No. 1 Harosoy.

IN THE MARKETS

SUPPLY AND DISTRIBUTION of the 1953-55 soybean crops, reported by Agricultural Marketing Service (1,000 bu.)

Year and quarter	Supply: Stocks at beginning of period[1] — Farms	Interior mills & elevators	Crushing plants	Terminal markets	CCC [2]	Total stocks	Production	Total supply
1953-54								
Oct.-Dec.	5,755	2,021	1,023	1,098	240	10,137	268,528	278,665
Jan.-Mar.	81,599	36,675	58,531	13,196	286	190,287		190,287
Apr.-June	37,312	16,862	52,297	11,461	36	117,968		117,968
July-Sept.	3,652	3,454	24,598	3,917	0	35,621		35,621
Season						10,137	268,528	278,665
1954-55								
Oct.-Dec.	529	113	81	613	0	1,336	341,565	342,901
Jan.-Mar.	149,178	57,804	44,613	8,534	0	260,129		260,129
Apr.-June	113,914	40,623	17,549	3,914	0	176,000		176,000
July-Sept.	32,902	18,963	10,775	2,385	1,582	66,607		66,607
Season						1,336	341,565	342,901
1955-56								
Oct.-Dec.	3,939	1,757	217	2,628	1,416	9,957	371,276	381,233
Jan.-Mar.	115,600	55,477	81,784	20,988	3	273,852		

Year and quarter	Distribution: Used for seed	Net exports[3]	Crushed at mills	Feed and residual[4]	Total disappearance
1953-54					
Oct.-Dec.	—	23,614	62,326	2,438	88,378
Jan.-Mar.	—	7,858	58,903	5,558	72,319
Apr.-June	23,368	5,793	50,632	2,554	82,347
July-Sept.	—	2,379	41,297	—9,391	34,285
Season	23,368	39,644	213,158	1,159	277,329
1954-55					
Oct.-Dec.	—	27,172	65,114	—9,514	82,772
Jan.-Mar.	—	12,325	60,785	11,019	84,129
Apr.-June	25,071	8,741	63,161	12,420	109,393
July-Sept.	—	11,910	59,950	—15,210	56,650
Season	25,071	60,148	249,010	—1,285	332,944
1955-56					
Oct.-Dec.	—	[5]33,642	74,651	—912	107,381

[1] Oct. 1 stocks in all positions include only old crop soybeans. [2] Owned by Commodity Credit Corp. in transit to ports. [3] Imports negligible. [4] Mostly quantity fed, but includes waste, loss and statistical errors in estimates. [5] Partly estimated. Stocks, production, and quantity used for seed estimated by crop reporting board; exports and quantity crushed from Bureau of the Census.

Soybean cakes and meals: Supply and disposition, 1952-55
(1,000 tons)

1952-53 Supply: Production	Total Supply	1953-54 Production	Total Supply	1954-55 Production	Total Supply	1955-56[1] Production	Total Supply
5,551	5,644	5,051	5,124	5,705	5,767	6,350	6,385

1952-53 Distribution: Feed	Exports	1953-54 Feed	Exports	1954-55 Feed	Exports
5,510	47	4,965	67	5,426	274

[1] Forecast.

SHORTENING. Standard shortening shipments reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

Jan. 21	4,284,747
Jan. 28	4,186,272
Feb. 4	4,559,849
Feb. 11	4,766,107

STOCKS. Soybean stocks in all storage positions on Jan. 1, totaled 274 million bushels, according to reports assembled by the USDA crop reporting board. These are the largest Jan. 1 stocks of record, exceeding Jan. 1 last year by 14 million bushels. The increase was entirely in the off-farm segment.

Current totals include farm stocks of 116 million bushels and interior mills, elevators and warehouse stocks of 55 million bushels, both estimated by the crop reporting board. Terminal stocks, as reported by the grain division, AMS, totaled 21 million bushels, nearly 2½ times those of a year earlier. Processing plants as enumerated by the Bureau of the Census held 82 million bushels, compared with only 45 million bushels on Jan. 1, 1955.

From an estimated supply of 381 million bushels (carryover Oct. 1, 1955, of 10 million plus 1955 production of 371 million bushels), a disappearance of 107 million bushels for the October to December quarter is indicated by stocks. Known use for the quarter includes 74.7 million bushels processed for oil as reported by the Bureau of the Census and nearly 34 million bushels exported. In addition considerable quantities of the 1955 crop soybeans were processed before Oct. 1.

The total of probable disappearance exceeds that indicated by current stocks; however, differences such as this usually clear up by the next quarter when there is less probability of duplication in stocks reported in the various segments.

U. S. Stocks of Soybeans, Jan. 1, 1956, with Comparisons
(1,000 bu.)

Position	Reported by	Jan. 1 1954	Jan. 1 1955	Oct. 1 1955	Jan. 1 1956
On Farms	Crop Reporting Board	81,599	149,178	3,939	115,600
Terminals	Grain Division AMS	13,196	8,534	2,628	20,988
Commodity Credit Corp.[1]	Commodity Credit Corp.	286	0	1,416	3
Processing Plants	Bureau of Census	58,531	44,613	[2] 217	81,784
Int. Mills Elev. & Whses.[3]	Crop Reporting Board	36,675	57,804	1,757	55,477
Total		190,287	260,129	9,957	273,852

[1] Owned by CCC, in transit or stored in their own bins. [2] Adjusted to stocks of old crop soybeans: total Oct. 1, 1955, was 20,117,000 bushels. [3] All off-farm storage not otherwise designated.

Stocks of Soybeans by States Jan. 1, 1955 and 1956 (1,000 bu.)

State	Off farm Jan. 1, 1955	Off farm Jan. 1, 1956	Total All Positions Jan. 1, 1955	Total All Positions Jan. 1, 1956
Ohio	10,155	14,885	24,415	24,717
Ind.	9,650	13,871	29,485	29,568
Ill.	36,324	49,668	74,626	79,821
Minn.	12,191	14,786	34,607	32,399
Iowa	20,490	26,520	48,005	37,645
Mo.	5,074	9,450	16,365	17,887
Kans.	689	1,363	1,595	2,043
N. C.	533	747	1,760	2,265
Miss.	1,408	*	2,186	*
Ark.	2,793	*	4,245	*
*Other	11,644	32,962	22,840	47,507
U. S.	110,951	158,252	260,129	273,852

* Other states and unallocated to avoid disclosing individual operations.

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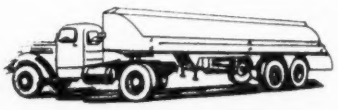

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STOCKS. Agricultural Marketing Service's commercial grain stock reports for close of business on Friday and Saturday preceding date of report (1,000 bu.)

	Jan. 23	Jan. 31	Feb. 7	Feb. 14	Feb.21
U. S. Soybeans in Store and Afloat at Domestic Markets					
Atlantic Coast	2,318	2,081	2,025	1,999	1,871
Gulf Coast	3,528	3,345	2,888	3,358	3,589
Northwestern and Upper Lake	4,449	4,527	4,222	4,707	4,762
Lower Lake	6,470	6,617	6,586	6,776	7,028
East Central	2,193	2,962	3,007	2,076	2,059
West Central, Southwestern and Western	2,817	2,662	2,580	2,359	2,270
Total current week	21,775	22,194	21,308	21,275	21,579
Total year ago	7,911	8,442	7,645	6,941	6,855
U. S. Soybeans in Store and Afloat at Canadian Markets					
Total current week	711	675	645	620	595
Total year ago	281	254	254	242	233
Total North American Commercial Soybean Stocks					
Current week	22,486	22,869	21,953	21,895	22,174
Year ago	8,192	8,696	7,899	7,183	7,088

Primary Receipts of Soybeans in 1,000 Bushels at Important Interior Points for the Week Ending:

	Jan. 27	Feb. 3	Feb. 10	Feb. 17
Chicago	488	497	484	455
Duluth	35	27	12	9
Indianapolis	48	54	35	24
Kansas City	38	99	63	145
Minneapolis	165	154	138	190
Omaha	12	33	34	27
Peoria	71	75	103	211
Sioux City	12	10	10	17
St. Joseph	21	50	127	110
St. Louis	48	22	32	4
Toledo	111	149	142	131
Totals	1,049	1,170	1,180	1,323
Last year	1,404	670	503	411
Total Chicago soybean stocks	5,804	5,844	5,939	6,046

EXPORTS. U. S. exports of soybeans and soybean oil for December. Preliminary data by Foreign Agricultural Service.

Soybeans	12,669,648 bu.
Soybean oil:	
Crude	759,390 lbs.
Refined but not further processed	4,780,705 lbs.
Refined, deodorized and hydrogenated	49,163,882 lbs.

Converted to a soybean equivalent basis the exports for December amounted to 17,946,574 bushels.

Authorizations under U. S. government export programs on edible oils, lard and soybeans, September 1955 to March 25, 1956

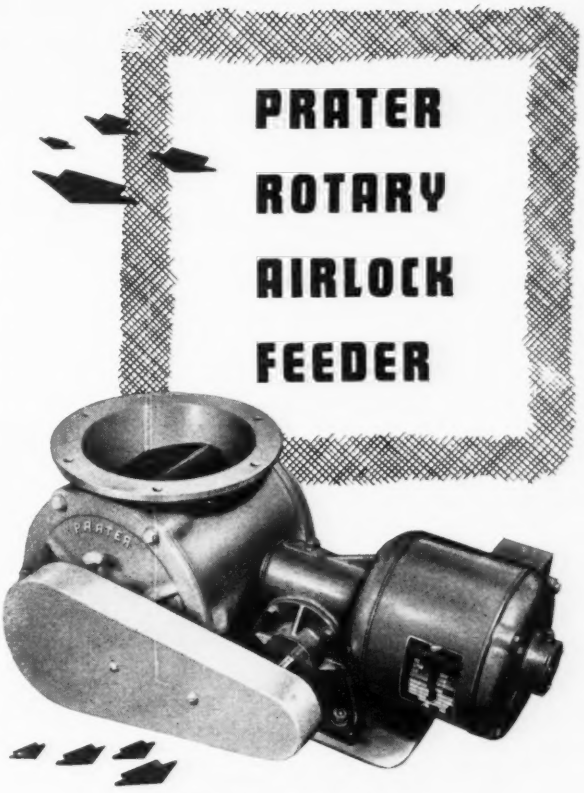
Country	Agreements or authorizations: Value Mil. dol.	Approx. quantity Mil. lb.	Items eligible for purchase[1]: Cotton-seed oil	Soy-bean oil	Lard	Soy-beans
Public Law 480						
Peru	3.0	22	X	X	X	
Ecuador	1.5	[2]10	X	X		
Spain	25.0	155	X	X		
Brazil	1.8	11			X	
Israel	2.2	13	X	X		
Colombia	1.5	10	X	X	X	
Argentina	25.3	175	X	X	X	
Greece	0.2	1	X	X	X	
Yugoslavia	10.8	88			X	
Total	71.3	485				
International Cooperation Administration						
France	.2	1-2	X			
Greece	4.0	20	X	X		
Bolivia	1.5	[3]11	X		X	
Formosa	6.7					X
Total	12.4					
Grand total	83.7					

[1] Distribution of each country's authorization among eligible commodities is not specified, except for Ecuador and Bolivia. [2] Nine million pounds of cottonseed oil and one million pounds of soybean oil. [3] Four million pounds of cottonseed oil and seven million pounds of lard.

Soybeans: Inspections for overseas export by coastal areas and country of destination, January 1956[1] (1,000 bu.)

Atlantic		Gulf	
Germany	373	Germany	207
Holland	408	Holland	691
Belgium	805	Belgium	16
United Kingdom	355	Denmark	112
Japan	337	Israel	340
Other	19	Formosa	550
Subtotal	2,297	Japan	2,854
		Korea	56
		Subtotal	4,826
		Total January 1956	7,123
		Total January 1955	4,262

[1] Data are based on weekly reports of inspections by licensed grain inspectors for overseas export and do not include rail and truck movement to Canada or Mexico.



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Soybeans: Inspections for overseas export by ports and country of destination Jan. 16 - Feb. 17. Reported by Agricultural Marketing Service (bushels)

	Baltimore	Norfolk	New Orleans	Mobile	Port Allen, La.	Total
Belgium	508,934	118,915	37,333		74,667	739,849
Japan	83,306	127,766	1,240,260			1,451,332
Germany	93,333	74,667	188,642	60,666	168,000	585,308
Holland	37,333	175,466	541,749	79,333	245,667	1,079,548
Formosa			341,473	729,381		1,070,854
Israel			339,733			339,733
United Kingdom	410,667	28,000				438,667
Korea			56,000			56,000
Denmark	149,334	112,002				261,336
Other	55,999		72,138			128,137
Total	1,338,906	636,816	2,817,328	869,380	488,334	6,150,764

FACTORY USE VEGETABLE OILS. Reported by Bureau of the Census.

Primary Materials: Factory Production and Consumption, and Factory and Warehouse Stocks, December 1955 - November 1955 (1,000 lbs.)

	Factory production		Factory consumption		Factory and warehouse stocks	
	Dec. 1955	Nov. 1955	Dec. 1955	Nov. 1955	Dec. 31 1955	Nov. 30 1955
Cottonseed, crude	226,931	262,589	199,941	203,340	192,182	204,267
Cottonseed, rfnd.	185,720	189,943	117,038	130,453	[1]378,216	[1]323,844
Soybean, crude	261,550	277,042	250,130	250,710	138,232	135,084
Soybean, refined	232,155	232,664	234,323	*215,687	79,686	*82,310
Vegetable foots (100% basis)	25,017	23,689	11,851	14,920	45,288	41,679

*Revised. [1]Includes 54 million pounds of refined cottonseed oil reported by respondents to the Census Bureau as owned by Commodity Credit Corp. This figure, as well as the comparable Nov. 30, 1955, figure of 117 million pounds, includes quantities sold for export by CCC but not "lifted" but excludes quantities sold by CCC for export and being further processed. As of Dec. 31, CCC reported no quantities of refined cottonseed oil as being removed from inventory and put in an "in-transit position to other storage."

Factory Consumption of Vegetable Fats and Oils, By Uses, During December 1955. (Thousands of pounds.)

	Edible products			Inedible products			
	Shortening	Margarine	Other edible	Soap	Paint & varnish	Lubricants & similar oils[1]	Other inedible
Cottonseed, refined	11,628	4,493	1,604			[2]	372
Soybean, crude				50	402	17	2,459
Soybean, refined	32,670	6,142	10,545		8,244	80	7,200
Foots, vegetable, raw and acidulated (100% basis)				2,358	151	[2]	784
Hydrogenated vegetable oils, edible:							
Cottonseed	16,163	22,341	2,057				[2]
Soybean	35,903	55,055					[2]

[1] Includes quantities consumed in lubricants, greases, cutting oils, dielectric oils, core oils, brake fluids, and metal working. [2] Not shown to avoid disclosure of figures for individual companies.

Consumption of primary fats and oils in fat splitting (1,000 lbs.)

	1955			1954	
	Dec.	Nov.	Jan.-Dec. Cumulative	Dec.	Jan.-Dec. Cumulative
Vegetable					
Coconut, crude	4,814	4,217	40,281	4,195	53,677
Other vegetable	243	1,493	19,950	[1]	9,574
Total vegetable	5,057	5,710	60,231	4,195	63,251
Soapstocks					
Vegetable foots	7,868	10,708	115,587	10,053	116,200

[1] Not shown separately to avoid disclosure of individual operations. U. S. Census Bureau.

LOANS. 1955-crop soybeans put under price support and loans outstanding as of Jan. 15, 1956, and totals for Jan. 15, 1955. From Agricultural Marketing Service. (1,000 bu.)

Quantity put under loan			Quantity of loans outstanding[1]	Purchase agreements	Total put under support 1955-56[2]	Total put under support 1954-55[2]
Farm stored	Warehouse stored	Total				
13,255	12,621	25,876	25,347	1,051	26,927	34,291

[1] The difference between the total quantity placed under loan and the total quantity outstanding is for all practical purposes the quantity redeemed. [2] Total placed under price support is the sum of the total put under loans and purchase agreements.

INSPECTIONS. Soybeans, inspected by grades and percent, as reported by Agricultural Marketing Service.[1]

Grade	Oct.-Jan. 1954-55		Oct.-Jan. 1955-56		January 1955		December 1955		January 1956 [2]	
	1,000 bu.	%	1,000 bu.	%	1,000 bu.	%	1,000 bu.	%	1,000 bu.	%
No. 1	18,369	14	32,672	19	2,156	14	3,738	14	5,091	24
No. 2	65,257	50	84,120	49	8,952	59	12,373	47	10,692	50
No. 3	34,444	26	36,596	22	2,815	18	7,398	28	3,985	18
No. 4	9,592	7	13,292	8	894	6	2,205	8	1,333	6
Sample	4,251	3	3,845	2	451	3	735	3	478	2
Total	131,913	100	170,525	100	15,268	100	26,449	100	21,579	100

[1] Carlot receipts have been converted to bushels on the basis that 1 carlot equals 1,750 bushels. [2] Of the January 1956 receipts, 1,750 were black, 3,500 mixed, 8,750 brown, and the remainder yellow soybeans. Inspections of soybeans in January included 4,106,769 bushels as cargo lots, 579,461 bushels as truck receipts, and the balance as carlot receipts. Based on reports of inspections by licensed grain inspectors at all markets.

PRICES. Average prices received by farmers, reported by Agricultural Marketing Service.

Soybeans, No. 2 Yellow: Average monthly price per bushel at Illinois country shipping points, 1951 to date (dollars.)

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Aug.	May	June	July	Apr.	Sept.	Avg.
1951-52	2.80	2.90	2.95	2.90	2.90	2.88	2.82	2.92	3.17	3.22	3.25	2.98	2.97
1952-53	2.85	2.89	2.90	2.85	2.82	2.94	2.95	2.87	2.76	2.56	2.55	2.47	2.78
1953-54	2.57	2.83	2.99	3.03	3.17	3.49	3.80	3.63	3.66	3.70	3.55	2.72	3.26
1954-55	2.69	2.74	2.73	2.74	2.74	2.63	2.54	2.46	2.42	2.36	2.39	2.24	2.56
1955-56	2.22	2.19	2.27	2.35									

(Quotations are for No. 1 Yellow soybeans since the latter part of September 1953.)

JAPANESE IMPORTS. Imports of soybeans into Japan for the current Japanese fiscal year as well as for calendar 1955 may reach the highest level since Japan lost control of Manchuria 10 years ago, reports Foreign Crops and Markets, USDA.

Imports by sources and quarters, January through September 1955, were as follows (in thousand bushels):

Source	January-March	April-June	July-September	Total
United States	8,632	3,820	3,640	16,091
Communist China	2,478	1,757	2,135	6,370
Brazil	422	40	172	635
Others	13	—	36	49
Total	11,545	5,617	5,983	23,146

Source: Customs House, Ministry of Finance.

SUEZ SHIPMENTS. Northbound vegetable oil shipments through the Suez Canal totaled 1,113 million pounds through the end of October, reports Foreign Crops and Markets. This total is already larger than that for the entire year of 1954 (593 million pounds) and 1953 (871 million).

Northbound soybean traffic in October was only 110,230 bushels bringing the total for January-October to 16,902,000 bushels. These figures compare with 624,640 bushels and 11,390,000 bushels for the respective periods in 1954.

Northbound shipments of soybeans through the Suez Canal

Calendar 1954	352,000 short tons
July-December 1954	62,000 short tons
January-June 1955	360,000 short tons

Source: Foreign Crops and Markets.

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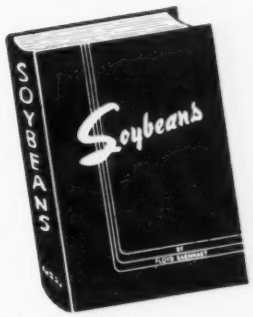

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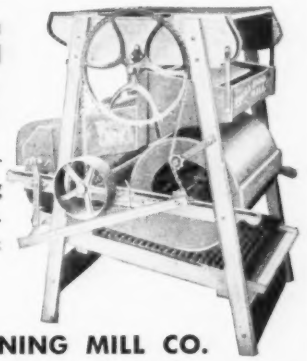

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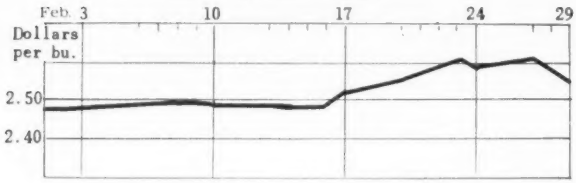
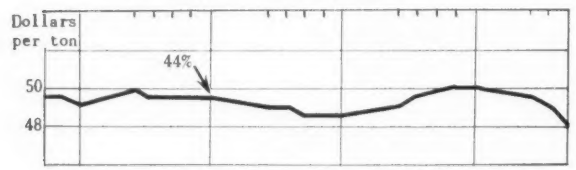
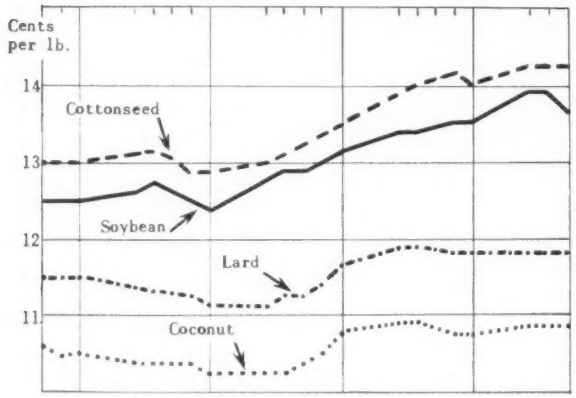


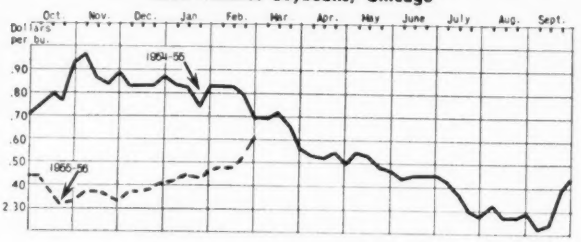
Bulk Soybean Oil Meal, Decatur



Crude Vegetable Oils and Lard, Tankcars



TRENDS AT A GLANCE (Weekly Close)
Near Futures Soybeans, Chicago



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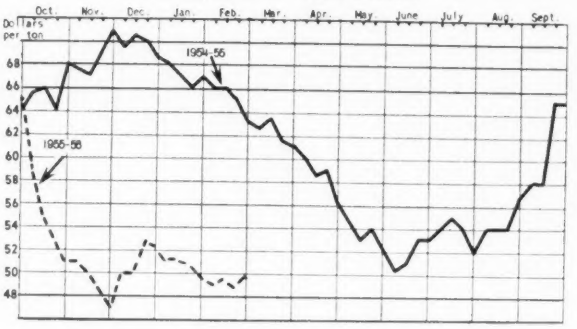
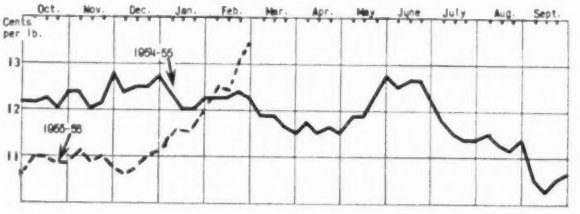


Crude Soybean Oil, Tankcars



February Markets

TREND in soybean oil and soybeans was sharply up during February, and both products reached new high ground for the 1955-56 marketing year. Soybean oil for the first time this season sold above the year-earlier price, in fact, reached the highest level since September 1954. Soybean prices were also approaching the year-earlier level at month's end.

Soybean oil meal continued to mark time.

The dynamic factor in the advance has been the aggressive demand for soybean oil by both exporters and refiners. Processors have had to continue a high volume of crushing in order to meet the demand for oil.

The heavy rate of crushing and exports has about absorbed the 30-million-bushel difference between the 1955 crop and the 1954 one. One estimate placed crushings for the October-February period at 125 million bushels compared to only 106 million for the same period last year. And exports through Feb. 15 were running 10 million bushels ahead of a year earlier.

The expectation is for a small carryover of soybeans into the 1956-crop year.

However there were uncertainties:

1—It was being questioned how well export demand will hold up at the higher prices for beans and oil. There were reports in late February that export demand was slackening, and that U. S. processors were outbidding exporters for available beans. This was being borne out by weekly inspection reports.

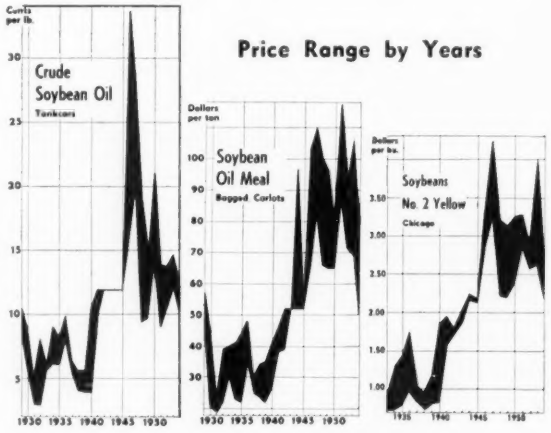
2—The higher price supports announced may have bullish implications but they are tied to the probability of a larger 1956 crop which may affect old crop prices later in the season. Some very large predictions on 1956 acreage are being made.

3—The European cold waves with losses of livestock feed and possible injury to the south European olive crop, also the President's offer to send surplus foods to Europe, strengthened the markets. Some questioned that the olive crop was badly damaged since it was in the dormant stage.

Country marketings have been at a rapid enough pace to keep processors well supplied.

BYPRODUCTS. The price for soybean fatty acids dropped from 14¾c to 14¼c during the month. Acid soybean soap stocks raised from 5⅞ to 6¼c a pound; and raw soybean soap stocks from 2⅜c to 2½c.

Price Range by Years



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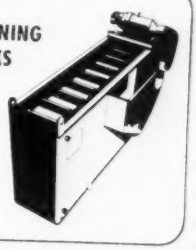

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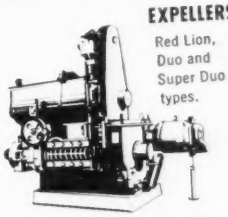

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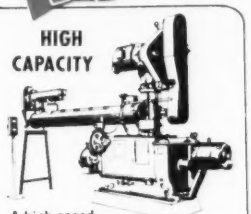

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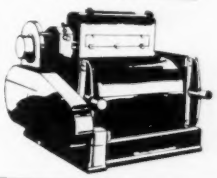

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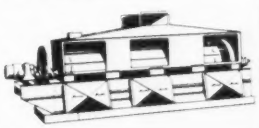

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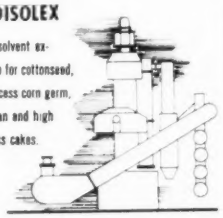
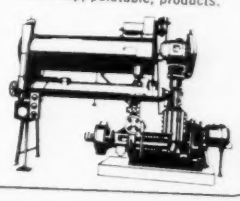


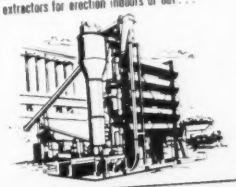
GRAIN EXPANDERS

Expands corn, wheat, hominy feed into crisp, palatable, products.



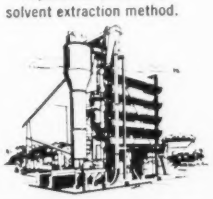
SOLVENT PLANTS

Total immersion, basket type, or horizontal extractors for erection indoors or out . . .



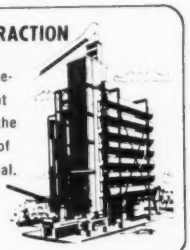
EXSOLEX

A patented pre-press, solvent extraction method.



MEAL EXTRACTION

Low-cost, pre-press solvent process for the production of granular meal.



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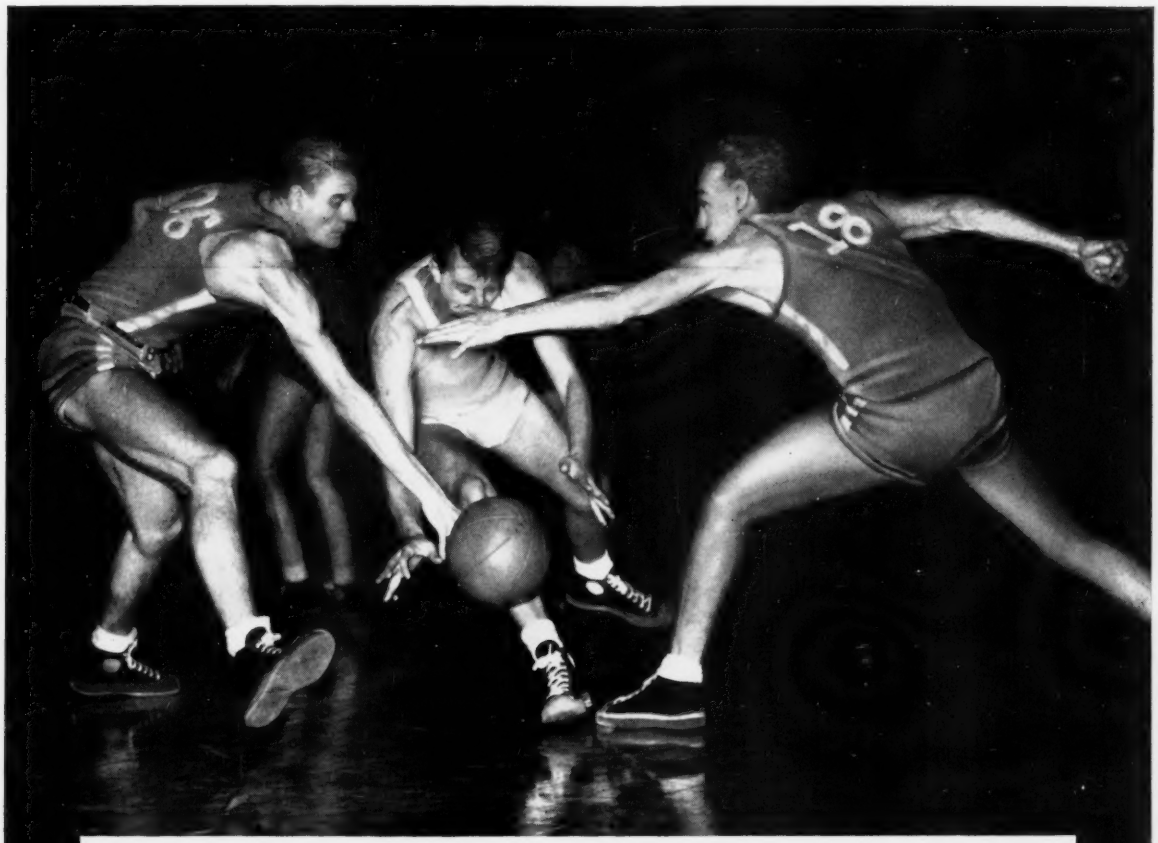

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